The Goulstonian Lectures

ON

THE PATHOLOGY OF THE THYROID GLAND.

Delivered before the Royal College of Physicians of London

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LECTURE I.[1]

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MR. PRESIDENT AND GENTLEMEN,—I must, in the first place, thank you very sincerely for the honour which you have conferred upon me by asking me to deliver the Goulstonian Lectures for this year, an honour which I feel to be all the greater when I read the list of distinguished Fellows of this College who have preceded me in this lectureship in whose footsteps I can but humbly endeavour to follow.

GENERAL SCOPE OF THE LECTURES.

In selecting the subject for these lectures I have been guided by three considerations. First, the widespread interest which has been aroused in the pathology and treatment of diseases of thyroid gland during the last few years. Secondly, the good example which the subject affords of how experimental research in pathology yields results which are of the greatest importance and assistance to the physician in his daily work of treating disease. Thirdly, the opportunity which I have had of devoting some attention to the subject may, I venture to hope, enable me to present it in a manner which will interest you. I shall not attempt to cover the whole ground but shall for the most part deal with those parts of the subject which I have been able to examine for myself, nor will time permit me to allude to all the valuable work which has been done by the many workers in this branch of pathology. I trust, therefore, that this explanation will excuse any omissions which I may make in not referring to the work of others.

It will be convenient first to consider the development and structure of the thyroid gland and the method in which its characteristic secretion is produced. This will clear the way for the consideration of the results which follow when this function is diminished or lost by removal of the gland in animals or by its destruction by disease in man. The removal of the thyroidal insufficiency thus induced by maintaining a supply of secretion from other sources will be considered as a means of treatment. I propose also to deal with the question of compensatory hypertrophy as illustrated by the thyroid gland, while in conclusion the pathology of exophthalmic goitre will be considered as far as our present knowlege of the subject permits.

DEVELOPMENT AND STRUCTURE OF THE THYROID GLAND.

The embryology and comparative anatomy of the thyroid gland furnish us with important information as to the origin of its present situation, structure, and function in man. The gland is developed in the embryo in three different parts. A median diverticulum of the hypoblast which lines the pharynx of the embryo is formed between the ventral ends of the second visceral arches, while a lateral diverticulum is developed on each side from the posterior wall of the fourth visceral cleft. In man the median portion persists for a time as a hollow vesicle from which a small canal, the thyreoglossal duct, leads to an opening on the dorsal surface of the tongue. At a later stage this vesicle becomes solid and the duct disappears, while its external opening on the surface of the tongue persists as the foramen cæcum in the adult. The two lateral diverticula fuse with the central portion, forming a mass shaped like a horseshoe encircling the embryonic larynx. All three portions become separated from the hypoblast from which they originated and develop into a mass of branching cell-cylinders. These cell-cylinders are later divided up by the ingrowth of connective tissue containing blood-vessels into separate vesicles. These gradually increase in size and become hollowed out by the accumulation of the colloid substance which is secreted by the epithelial cells into the lumen of the alveolus. His[2] has found that in some cases the thyreoglossal duct already mentioned does not become obliterated, but that it persists in the adult as the lingual duct which has been traced from the foramen cæcum as far down as the hyoid bone. In some cases the middle lobe of the gland is continued upwards as a narrow tube, the thyroid duct, as far as the hyoid bone. The late Professor Kanthack,[3] who examined 100 adults for these ducts, however, found neither a lingual nor a thyroid duct in any of the cases which he investigated and in many there was not even a foramen cæcum. The important fact remains that the thyroid gland is developed primarily as an outgrowth of the pharyngeal hypoblast, and in some lower animals this connexion with the pharynx is still maintained. Andriezen[4] directed attention to the fact that the thyroid gland is represented in ascidians by a mass of glandular tissue and in amphioxus by a hypobronchial organ which pours its secretion directly into the pharynx. In higher forms (such as fishes) the gland is embedded in the surrounding tissues but the duct which communicates with the pharynx still remains. Thus both the ontogenetic and phylogenetic histories clearly show that the gland as we now find it in man is descended from a secretory gland which originally was provided with a duct through which the secretion passed into the pharynx just as the secretion of the salivary glands still flows into the mouth. In this we find an explanation of the fact that the activity of the thyroid secretion is not destroyed by passage through the stomach but still can produce all its usual physiological effects when swallowed and absorbed from the alimentary canal as it doubtless was by our remote ancestors. This mode of evolution seems to indicate that a ductless gland with an internal secretion is a higher stage of development of a duct gland with an external secretion.

The fully developed gland consists of three parts—two lateral lobes and the isthmus which unites them. The two lobes are closely applied to the sides of the larynx and trachea and extend backwards as far as the sides of the pharynx and œsophagus. At the level of the isthmus the recurrent laryngeal nerve lies in the angle between the œsophagus and the trachea, being covered externally by the lateral lobe of the gland on each side. In front the gland is covered by the sterno-hyoid, the sterno-thyroid, and omo-hyoid muscles. Laterally the lobes extend outwards in front of the common carotid arteries. Each lateral lobe is shaped somewhat like an almond but the upper end is narrower and more pointed than the lower. The lower end lies on the fifth or sixth ring of the trachea, while the upper is generally on a level with the middle of the thyroid cartilage. The position of the isthmus varies, but it generally lies in front of the second, third, and fourth rings of the trachea. In many cases, variously estimated at from 40 to 68 per cent., the pyramid or middle lobe extends as a thin process from the isthmus or from a neighbouring part of one of the lateral lobes up to the hyoid bone to which it is attached by muscular or fibrous tissue. The gland is firmly fixed to the larynx and trachea by fibrous tissue so that it follows the movements of these structures which take place during deglutition. The gland when freshly removed is of a dark red-brown colour. It usually weighs from an ounce to an ounce and a half (from 30 to 50 grammes). It is relatively larger in the infant than in the adult; thus Huschke and Weibgen[5] found that in newly-born children the weight of the gland was equal to from $\frac{1}{233}$ to $\frac{1}{310}$ and in adults from $\frac{1}{1233}$ to $\frac{1}{1705}$ of the total weight of the body. The gland is as a rule somewhat larger in women than in men, though Ewald[6] makes a contrary statement supported by Weibgen who gives the average weight in the male as 34·2 grammes, and in the female as 29·3 grammes. Each lobe is about two inches (50 mm.) long, an inch and a quarter (30 mm.) broad, and three quarters of an inch (18 mm.) deep. The right is generally a little larger than the left. The isthmus is about half an inch (12 mm.) broad, and from a quarter to three quarters of an inch deep. The whole

[1] Lecture II. was delivered on March 9th and Lecture III. will be delivered on March 14th.

[2] Anatomie menschlicher Embryonen.

[3] Journal of Anatomy and Physiology, vol. xxv., p. 155.

[4] Brit. Med. Jour., Sept. 23rd, 1893, p. 678.

[5] Münchener Medicinische Abhandlungen, 1891.

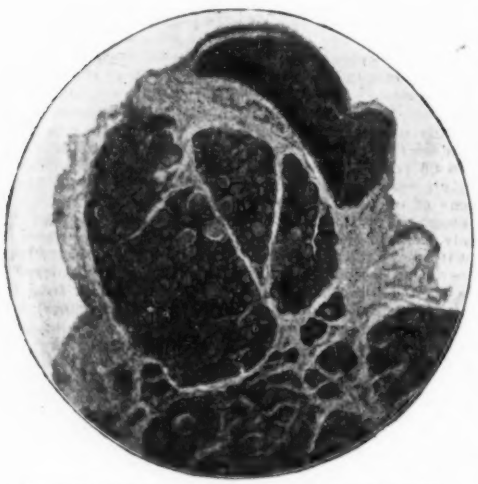
[6] Die Erkrankungen der Schilddrüse, p. 3

gland, however, is liable to considerable variations in structure, such as inequality in size between the two lobes, absence of one lobe, and absence or irregularity of the isthmus. There is a rich blood-supply from four arteries, the superior and the inferior thyroid arteries on each side, and in some cases there is a further supply by the thyroidea ima. These arteries are tortuous and very large for the size of the gland which they supply; they form many anastomoses and finally end in a network of capillaries closely surrounding each alveolus. The capillaries come into close relationship with the epithelial cells and some capillary loops even project between them. The veins which, according to Sappey, have no valves unite to form the superior, middle, and inferior thyroid veins, the two former of which open into the internal jugular vein while the latter enters the innominate. The lymphatics start from the lymph spaces in the connective tissue which surrounds and unites the vesicles of the gland. They unite to form large trunks which freely anastomose both in the substance of the gland and also upon its surface. On leaving the gland the lymphatics pass through the superior and inferior deep cervical glands to join the jugular lymphatic trunk which on the left opens into the thoracic duct and on the right into the right lymphatic duct, each of which discharges into the venous blood-stream at the point where the innominate vein is formed by the junction of the internal jugular and subclavian veins on each side. The nerves which supply the gland come from the middle and inferior cervical sympathetic ganglia and pass into it with the blood-vessels. The nerve branches run in close proximity to the bases of the epithelial cells but the actual nerve-endings have not yet been described.

HISTOLOGY.

Externally the gland is invested by a firm fibrous capsule from which septa extend inwards, partially dividing it into lobules of various sizes. Still finer divisions of this connective tissue framework surround the individual follicles and support the small divisions of the blood-vessels, lymphatics, and nerves. The glandular structure consists of large numbers of closely aggregated follicles which vary in size and shape. On section they appear round, polyhedral, or flattened, and the diameter in man ranges from 0·045 mm. to 1 mm. In the great majority of the follicles there is a single layer of cubical epithelial cells surrounding a central area filled with their secretion, the colloid substance. Some of the follicles seen in a section of

FIG. 1.



Transverse section of thyroid gland of bonnet monkey, showing general structure and close attachment of parathyroid gland.

the gland appear as masses of cubical cells without any central space. This appearance is in some cases due to one side of the alveolus alone being exposed in the section; in others to the alveolus not being distended with secretion. No basement membrane to the epithelium has been described. Two kinds of cells are found in the epithelium—the chief cells and the colloid cells. The chief cells are usually cylindrical, sometimes cubical, in shape. They measure from 8 μ to 16 μ in height and from 6 μ to 8 μ in breadth, while the nucleus which is round measures from 5 μ to 6 μ in diameter. The colloid cells are considerably shorter than the chief cells, thus Hürthle[1] found in one specimen that while the chief cells measured from 12 μ to 14 μ in height the colloid were only from 7 μ to 9 μ high. The colloid cells are also distinguishable from the chief cells by the readiness with which they take up those staining fluids which also stain the colloid substance in the centre of the follicle. Intermediate types may also be observed. The colloid substance which occupies the central space of the alveolus is a yellow glairy fluid which stains uniformly in microscopical sections. Scattered through it may sometimes be seen white blood corpuscles, epithelial cells, and the remains of red blood corpuscles undergoing degenerative changes. The general appearance of the gland is shown in Fig. 1 and Fig. 2, which were taken from transverse sections

FIG. 2.

Transverse section of one lobe of thyroid gland of monkey, showing one portion of parathyroid at right edge of section and another triangular portion embedded in and just below centre of thyroid gland.

through the lateral lobe of the thyroid gland of a bonnet monkey. These and the other micro-photographs which will be shown later have been kindly prepared from my specimens by Dr. R. A. Bolam. These illustrations also show how closely in this animal the parathyroid is attached to the thyroid gland in which it may be even partly embedded, as in Fig. 2, an association to which I shall refer more fully in dealing with the functions of the gland.

FORMATION AND ABSORPTION OF THYROID SECRETION.

The colloid substance is the secretion of the epithelial cells which line the alveoli. Hürthle has shown by observations made on normal glands and on portions of glands in which increased secretory activity had been stimulated either by removal of the greater part of the gland or by ligature of the bile-duct so as to cause absorption of bile-products into the blood that the secretion may be formed by the epithelial cells in two ways. The colloid may be either formed in droplets in the cells and then gradually extruded into the lumen of the alveolus or whole cells may break down and be discharged into the colloid substance, a part of which they thus help to form. In the first method the same cell continues to secrete, while in the second its place is taken by one of the reserve cells. It is doubtful if both these methods obtain during normal secretion, the first being probably the usual manner in which secretion takes place. The large amount of secretion which is found in many alveoli indicates that under ordinary circumstances it is not discharged as soon as it is formed, but that the central

[1] Pflüger's Archiv, 1894, vol. lvi. 1.

portion of the alveolus serves as a reservoir where the secretion is stored for a time before it finally escapes from the gland.

As the thyroid is a ductless gland it is clear that the secretion can only escape by the lymphatics or the veins. The evidence which we possess shows that the former is the usual path, for it was shown by King and by Horsley [8] that by applying pressure to the gland the colloid could be squeezed from the acini into the interacinous lymphatic spaces where it could be seen with the microscope. Biondi and Hürthle have found that this escape of the secretion from the alveolus may occur in two ways. The walls of the alveolus, not necessarily as the result of distension, becomes thinned out at one point and finally ruptures, allowing the colloid to escape directly into the lymphatic space outside while the empty follicle collapses and forms the starting-point for a new one. Hürthle has found that the secretion can also pass out from the alveolus without rupture of the wall. He injected Berlin blue into the lymphatic spaces of the gland, using an intermittent pressure, and found that it passed on into the interior of the alveoli through minute intercellular channels in which it could be seen. He also found that when the secretory activity was stimulated the colloid itself could be seen lying in these intercellular channels continuous with the colloid in the alveolus at one end and with that filling the lymph spaces at the other, proving that it was passing from the former position to the latter. By one or other of these methods, then, the secretion flows into and mingles with the lymph which bathes the interalveolar spaces of the gland and with it flows along the path already described to be discharged into the blood-stream in the innominate vein and so distributed to all parts of the body. No doubt as in other glands the activity of the secretion varies according to circumstances; of these, however, we possess but little information. Stimulation of the laryngeal nerves or of the sympathetic with the faradaic current produces no change indicative of increased secretion. Pilocarpin produces a marked increase in the secretion of the colloid as shown by Wyss, and Schäfer found that the changes produced in the cells were similar to those which occur in other secretory glands under the stimulating influence of this drug. As already mentioned the presence of an excess of bile constituents in the blood after ligature of the bile duct also stimulates thyroidal secretion. Removal of the greater part of the gland was also shown by Hürthle to serve as a stimulus to more active secretion in the remaining portion.

COMPOSITION OF THYROIDAL SECRETION.

At one time the thyroid gland was considered to be an excretory rather than a secretory gland and the excretion a mucinoid substance the retention of which led to an accumulation of mucin in the body and the production of the subcutaneous swelling in myxœdema. Further investigation has shown that the colloid substance is a true secretion which does not contain mucin. Our knowledge of the actual composition of this secretion is by no means complete but several important constituents have now been separated from it. Most of those who have examined the composition of the secretion have considered the proteids to be the important and active constituent of it. Notkin [9] regards thyreoproteid, a substance which he isolated from the gland, as an active constituent which behaves like an enzyme. Gourlay [10] found that a nucleo-proteid was the only proteid to be obtained from the thyroid in any quantity and that it contained phosphorus which by Morkutun's analysis has been shown to amount to 0·32 per cent. Baumann and Roos [11] made the important discovery that the colloid substance contains iodine in an organic combination with proteid which they named "thyroiodin." This substance contains 9·3 per cent. of iodine and 0·56 per cent. of phosphorus. Hutchison [12] has found that two proteids are contained in the gland, a nucleo-albumin which is contained in the epithelial cells and a colloid material which fills the acini. The formed secretion of the gland is split up by gastric digestion into two parts, one of which is proteid, contains only a small amount of iodine, and has but slight physiological action, the other of which is non-proteid, contains more iodine and all the phosphorus of the original colloid, and is more active in removing symptoms due to loss of thyroid secretion than the proteid portion. S. Fraenkel [13] obtained a crystalline substance with the formula $C_9H_{11}N_3O_5$ from the gland which he named "thyreoantitoxin"; there is, however, no satisfactory evidence to show that this body is endowed with active properties.

It is evident from these observations that the secretion is a complex body and we cannot as yet say whether its remarkable properties depend on one or, as is more probable, several constituents. Be this as it may we shall now consider what functions are fulfilled by the secretion as a whole, for that is the form in which it mingles with the blood and is thereby conveyed to the tissues.

THE RESULTS OF LOSS OF THE SECRETION IN ANIMALS.

A large amount of valuable information as to the properties and functions of this secretion has been obtained by observing what occurs when it is no longer present in the blood. This state of affairs is easily brought about by removal of the gland from an animal. Owing to the superficial position of the gland in the neck this operation can easily be performed so as to entail no other secondary result than the loss of thyroid secretion forthwith, provided only that the parathyroid glands are not attached to the gland and removed with it, in which event the effects observed are the results of thyroidectomy plus parathyroidectomy. In man the results of failure of the normal supply of thyroid secretion from disease of the gland are seen in primary myxœdema and from removal of the gland for goitre in secondary myxœdema or "cachexia strumipriva" as it is also called. My own observations of the results of thyroidectomy have been made on rabbits and monkeys. It has, however, been shown that although no effects have been observed in fishes, in lizards and snakes the operation is followed by loss of strength and activity, ending in death in the course of a few weeks. In rabbits the different results obtained by various observers were difficult to explain until it was shown by Gley [14] that removal of the parathyroid glands along with the thyroid gland produced different effects from the removal of the thyroid alone. The double operation was followed by acute symptoms, the most important of which were muscular tremors commencing in the masseter muscles, clonic and often tetanic contractions of the voluntary muscles, paralysis of the extensors of the fore feet followed by that of the hind limbs, difficult and often rapid respiration, salivation, dilation of the pupils, and rise in temperature. Removal of the thyroid gland alone was followed by no such immediate effects.

My own observations show that although the immediate effects of thyroidectomy are very slight, after a long interval a chronic cachexia develops closely resembling myxœdema in man. Thus in two rabbits which were kept for a long time under observation after the thyroid gland had been removed there was an early development of hebetude and loss of appetite; no further change was noticed until an interval of 11 months in one case and 12 months in the other had elapsed after the operation. After this, in addition to the hebetude already mentioned, swelling of the subcutaneous tissues, dryness of the skin, loss of hair, and subnormal temperature developed—an entirely different condition from that described by Gley after removal of the parathyroids as well. The illustrations show the appearance of one of these animals killed 11 months after the operation and the ears of the other killed 21 months after. The ears were very dry, rough, and cold to the touch though they flushed readily when handled. The edges of the ears were dry and cracked to a depth of a quarter of an inch. In many places this dried margin had broken off, leaving an irregular outline to the ear. In a third rabbit which was kept for 27 months after thyroidectomy no symptoms appeared. When the animal was killed the reason of this was found to be that some of the glandular tissue had unintentionally been left at the time of the operation and had undergone compensatory hypertrophy. The total amount of thyroid tissue found weighed only 0·07 gramme or about one-third of the weight of the gland of a normal rabbit, but it had been sufficient to maintain an adequate supply of secretion for more than two years. Dogs and cats both develop a rapidly fatal cachexia after thyroidectomy. More than 40 years ago Schiff showed that dogs did not long survive the operation and in 1884 he found that 59 out of 60 dogs rapidly

[8] Brit. Med. Jour., Feb. 6th, 1892.
[9] Semaine Médicale, April 3rd, 1895.
[10] Journal of Physiology, vol. xvi., 1894, p. 23.
[11] Zeitschrift für Physiologische Chemie, Band xxi., 1896, p. 481.
[12] Journal of Physiology, vol. xx., 1896, p. 474.
[13] Wiener Medicinische Blätter, 1895, 43.
[14] Archives de Physiologie, 1892.

succumbed after total extirpation of the gland. In dogs the total duration of the symptoms induced by the operation may vary from a few days to five weeks, but it rarely exceeds this period. Soon after the operation the animal becomes dull and listless and loses its appetite. These symptoms are followed by fibrillary twitchings in the muscles and clonic convulsions of the trunk and limbs, during which the animal lies on its side with the head thrown back and the limbs extended. There is great dyspnœa during these attacks and the animal is in a half comatose condition which becomes complete before death. There is a general diminution of muscular power and in many cases rapid emaciation. There is a slight rise of the temperature at first which becomes sub-normal before death. The red corpuscles are diminished and the white are increased in number. Very similar symptoms occur in cats. The observations of Vessale and Generali [15] on cats and dogs, of Edmunds [16] on dogs, and of Welsh [17] on cats show that if the parathyroid glands are excised without the thyroid gland very similar acute symptoms occur to those observed when the thyroid and parathyroids are removed together. These symptoms are tremors, slow and unstable gait, emaciation, and weakness, all of which previously were regarded as being due to the loss of the thyroid alone. The most important results of all have been obtained in monkeys which have been employed by Munk, Horsley,[18] and myself. In the bonnet monkey (macacus sinicus) which I have used with one exception in all my experiments [19] a parathyroid gland lies in close connexion with or actually embedded in each lobe of the thyroid gland, as is shown in Fig. 1 and Fig. 2. As a result of this when the thyroid gland is removed the parathyroids are removed along with it. It would be difficult to remove the one without the other, for distinctly as the parathyroid can be seen in a transverse section it is much more difficult to see it during life while the gland is *in situ*. In two recent experiments I was unable to detect even with a lens the parathyroids on either side and to remove them without the thyroid gland; they were, however, easily seen in transverse sections of the lateral lobes after removal of the whole gland. It is therefore important to bear in mind that thyroidectomy in this monkey involves removal of the parathyroids as well, so that the symptoms which occur afterwards are not solely due to loss of thyroid secretion but in part are due to loss of the parathyroids as well.

I have removed the whole or a part of the thyroid gland in nine bonnet monkeys and in one rhesus monkey; in four of the former the symptoms were allowed to develop with the object of testing the influence of various preparations of the thyroid gland upon them. Some symptoms also occurred in the others, but these four form the basis for the description of the symptoms which result from the operation. These symptoms have been very carefully described by Horsley, but they have such an important bearing upon the whole subject that I shall briefly describe what I was able to observe in my own experiments. The gland is readily removed in the following manner when the animal is fully under the influence of ether. The skin of the front of the neck is shaved and carefully washed with one in 1000 solution of perchloride of mercury. A median longitudinal incision is made through the skin overlying the thyroid and cricoid cartilages and upper part of the trachea. On separating the muscles and exposing the upper part of the trachea the isthmus comes into view. Each lobe is then gently separated from the surrounding structures and while the gland is held by one pair of forceps the blood-vessels are torn out of it at the point of entrance by another pair. The loss of blood is trifling and no ligatures are required. The usual antiseptic methods are adopted and the muscles are united by a couple of sutures. The skin is brought together with horsehair sutures set very close. The wound is dressed with carbolic gauze or some antiseptic wool and collodion and it heals rapidly by first intention. After the operation the animals have been kept in a room the temperature of which ranged between 60° and 70° F. In about five days the symptoms first begin to develop, the early symptoms being entirely nervous. One of the first to appear is a fine regular tremor which is most easily seen in the upper limbs but which is also plainly visible in the lower limbs as well when the animal is held with the feet unsupported. Along with the tremor there is a marked change in the whole demeanour which is the more noticeable owing to the naturally lively disposition and active habits of the healthy monkey. There is progressive apathy with loss of natural curiosity and interest in surrounding objects, while the temper is irritable, interference being resented. There is loss of activity, as the animal sits still in one place on a perch or on the floor of the cage for long periods without moving; and there is increasing loss of muscular power, as climbing is done more slowly and evidently with greater effort as the symptoms advance. The attitude assumed is characteristic: the head is bent, the trunk is curved forwards, and the knees are drawn up so that the chin rests upon them, the joints of all four limbs being in a position of flexion. This attitude is well shown in Fig. 3 taken from one of my animals. Contractures owing to tonic spasm of the flexor muscles frequently occur; in fact, this attitude is, I believe, partly a result of these contractures as the limbs are often found to be rigid when it is adopted. Clonic contractions of the muscles are common. There may be a single contraction of a group of flexor muscles or a series of three or four may involve all the flexors of one arm, increasing in intensity until a position of extreme flexion at all the joints is reached, after which relaxation takes place until another series occurs. Irregular fibrillary contractions of the superficial muscles are often visible through the skin. In consequence of these symptoms the gait is stiff and unsteady, and when the contracture is excessive the animal is obliged to walk on the heels owing to the tonic spasm of the flexors of the ankle raising the toes and sole of the foot from the ground. There is a marked tendency to fall over backwards, so that if a banana is held over the animal's head it loses its balance in looking upwards at it and falls over backwards and a very slight push when the animal is sitting has a similar effect. True epileptic fits of greater or less intensity may occur. There may be a sudden loss of consciousness, so that if the monkey is on the perch at the time it falls to the ground. In one case I observed several epileptic fits in succession in which there was loss of consciousness, tonic spasm of the flexor muscles of the limbs, with risus sardonicus, followed by clonic contractions and micturition. In one fit there were in addition double internal strabismus with retraction of the eyelids and conjugate deviation to the left. Retraction of

FIG. 3.

Monkey after thyroidectomy, showing attitude and swelling of face.

[15] Rivista di Pathologia Nervosa e Mentale, vol. i., 1896.
[16] Journal of Pathology, vol. iii., 1896.
[17] Ibid., vol. v., 1898.
[18] Report of the Clinical Society on Myxœdema, 1888.
[19] The expenses have been partly defrayed by a grant from the Scientific Grants Committee of the British Medical Association.

the head and salivation were also observed. I have seen a temporary inability to use the arms owing to spastic rigidity limiting the movement, but not actual paralysis as described by Horsley who twice observed a complete temporary hemiplegia. The temperature at first is raised and irregular, but it soon becomes subnormal. Thus in one experiment the rectal temperature, which is usually 100°F. in this monkey, was only twice below normal during the first week following the operation, as it otherwise ranged between 100° and 102°. During the second week it only once rose to the normal level, being otherwise between 98° and 99·6°, while in the third week it varied between 97·6° and 100°, except on two evenings when it rose to 101° and 102·4°. In one experiment I found the temperature as low as 80° four days before death.

During the second and third weeks the myxœdematous swelling becomes distinct and, as in man, is most apparent in the face. Both upper and lower eyelids become swollen, and with this there is sometimes transverse wrinkling of the forehead. Both lips are also swollen by the elastic œdema. The appearance of the face is shown clearly in Fig. 3 and Fig. 4 which were taken from two different monkeys. The

FIG. 4.

Monkey after thyroidectomy, showing swelling of eyelids and lips.

skin, more especially of the ears, becomes dry and rough, and the hair may be shed. Examination of the blood shows that the red corpuscles are diminished and the white increased in number. The average duration of life was found by Horsley to be 24 days, but he showed that when the temperature of the air in the cage was maintained at 90°, the average duration of life was increased to 125 days while the symptoms ran a more chronic course, like those of cretinism in man. Without giving any further details of this interesting condition its resemblance to primary myxœdema in man is remarkable. The course of the symptoms is much more acute than in man, partly because the supply of thyroid secretion is cut off suddenly by the operation, while in primary myxœdema the supply only gradually fails as the disease of the gland advances. In both conditions we have the same progressive loss of mental and bodily activity, subnormal temperature, elastic subcutaneous œdema, dry skin, and loss of hair. In the monkey we have, however, acute nervous symptoms which do not occur in primary myxœdema, though some have been observed after thyroidectomy in man. I would suggest, however, from the results of removing the parathyroid glands in rabbits and other animals that these symptoms are in part due to the loss of the parathyroids which, as we have seen, are removed along with the thyroid. This view receives further support from the fact which will be considered later, that these acute nervous symptoms are not readily controlled by treatment with thyroid extract as might be expected were they purely thyroidal in origin. The close anatomical association of the parathyroid with the thyroid renders the removal of the former without the latter, or *vice versâ*, very difficult in this animal. Under these circumstances we can remove both together and afterwards give thyroid extract to prevent the onset of symptoms from loss of thyroid secretion. The symptoms which then occur, as I hope to show in my next lecture, are nervous in origin and are due, I believe, to the loss of the parathyroids. Opportunities of observing the effects of total thyroidectomy in man have occurred in cases in which that operation has

FIG. 5.

Thyroid gland and pituitary gland from a case of myxœdema.

been performed for goitre. It is well known that in a certain number of these cases as a result of the loss of the thyroidal secretion symptoms develop which are identical with those of primary myxœdema. Indeed, it was the striking similarity between the two noticed by Sir F. Semon which led to the appointment of the committee by the Clinical Society of London, whose report proved the identity of the two conditions and their dependence upon loss of function of the thyroid gland.

THE CHANGES IN THE GLAND IN PRIMARY MYXŒDEMA.

In man only three of the diseases which occur in the thyroid gland appear to be capable of causing a sufficiently

destructive lesion of the secretory cells to materially diminish the amount of secretion. Syphilis and actinomycosis of the gland have thus caused myxœdema. If these diseases are successfully treated the gland recovers, sufficient secretion is once more formed, and the myxœdema disappears. The great majority of cases of primary myxœdema are due to a fibrosis of the gland with atrophy of the secreting epithelium. Unfortunately, we know very little as yet of the cause or mode of origin of thyroidal fibrosis. It may, according to the older views, be regarded as a chronic inflammation, a chronic interstitial thyroiditis, as a result of which new fibrous tissue is formed which by its slow contraction and constriction of the blood-vessels and alveoli leads to the destruction of the epithelial cells. On the other hand, it seems more probable that the atrophy of the glandular tissue takes place primarily as the result of the action of some toxic agent and that the fibrosis is only a replacement fibrosis such as occurs in the spinal cord and elsewhere after more highly organised structures have been destroyed. This problem, which is one with that of the origin of fibrosis of other glandular organs such as the liver and kidney, does not concern us further here, for however it originates the result of the disease is a slowly progressing destruction of the gland with gradual diminution and final arrest of secretion.

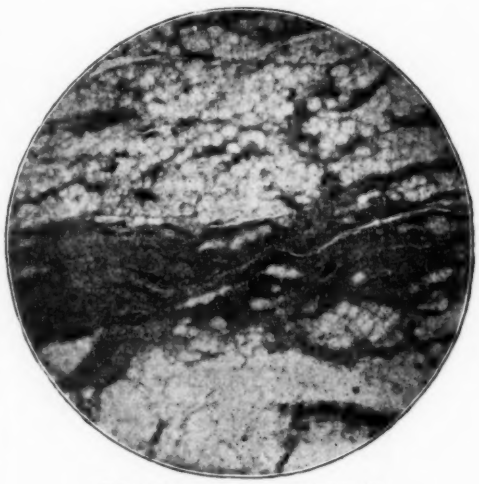
The structural changes in thyroidal fibrosis may be very extensive—thus in one specimen, for which I am indebted to Dr. Callcott of Gosforth, the whole gland was much diminished in size and pale-yellow in colour. The right lobe measured one and a quarter inches in length and the left lobe one and a quarter inches, and the isthmus a quarter of an inch in width. The general appearance is shown in Fig. 5. The day after it had been removed and placed in spirit it weighed 3·52 grammes, or only about one-tenth of the normal weight. The microscopical structure is shown in Fig. 6, from which it will be seen that only a few scattered

FIG. 6.

Thyroidal fibrosis with advanced atrophy.

alveoli are left and even in some of these only a few of the epithelial cells still survive. The rest of the gland is made up of richly nucleated areas of young fibrous tissue divided by wide strands of older fibrous tissue with few nuclei. In another case in which death occurred from mitral disease 18 years after the onset of the myxœdema, for the last six of which she had been treated by thyroid extract, the gland was pale-yellow in colour and weighed 4·5 grammes. The whole of the gland, as is shown in Fig. 7, was converted into fat and fibrous tissue and not a trace of the original glandular structure remained. It is therefore quite evident that very little if any secretion would be formed in the gland shown in Fig. 6 and certainly none at all in that shown in Fig. 7, in which for long there must have been complete arrest of thyroidal secretion. The symptoms of myxœdema which occur in man as a result of this destructive disease of the gland were so ably described by Dr. Ord in his Bradshaw lecture last year that they are familiar to all. I should, however, like again to draw attention to the fact that there are many cases of early thyroidal fibrosis in which the symptoms are not nearly so definite as in the advanced cases. I have endeavoured in a recent paper to show what are the chief characteristics of these cases, such as slight subcutaneous swelling and dryness of the skin, normal temperature, certain striking subjective nervous symptoms, &c. The opportunity of

FIG. 7.



Thyroidal fibrosis with complete atrophy.

examining the condition of the gland at this early stage can only arise if death should occur from some accident or intercurrent disease. In the absence of definite information we can only conjecture that a much earlier stage of fibrosis will be found, for it is evident that in any given case the severity of the symptoms will vary directly with the amount of atrophy of the glandular structure. The gradual changes in the appearance of a patient suffering from slowly progressing fibrosis of the thyroid gland will be illustrated by some photographs which will be shown at the next lecture, in which I shall deal with results of disease of the thyroid gland in the young and the rational treatment of myxœdema and cretinism.

LECTURE II.

Delivered on March 9th, 1899.

RESULTS OF LOSS OF THYROID SECRETION IN THE YOUNG.

MR. PRESIDENT AND GENTLEMEN,—So far we have considered only the results of athyroidism in adult animals and man, but thyroid secretion plays such an important part in the metabolism of normal growth of the young that it is necessary to consider the results of its loss in young animals and children when in addition to other symptoms we find arrest of development. Hofmeister [20] found in young rabbits from five to 16 weeks old that thyroidectomy was followed by arrest of growth of the bones and especially of the long bones. The skin became rough, the hair was shed, and the abdomen swelled. Von Eiselsberg [21] removed the thyroid gland from two male lambs eight days old and kept a third similar lamb as a control. So marked was the arrest in growth that seven months later when the control lamb weighed 35 kilogrammes the two others only weighed 14 and 10 kilogrammes each. The two together thus weighed little more than two-thirds as much as the normal animal. The lesser lamb had a small head with rudimentary horns and subnormal temperature. These experiments show how essential a normal supply of thyroid

[20] Fortschritte der Medicin, 1892.

[21] Verhandlungen der deutschen Gesellschaft für Chirurgie, XXII. Congress, 1893.

secretion is to natural growth in young animals. Of special interest in this connexion is the remarkable case recorded by Bruns,[22] in which Sick removed an entire goitre from a boy 10 years of age. 18 years afterwards Bruns examined the patient and found that bodily development had been arrested from the time of the operation. The expression of the face was idiotic and there was well-marked swelling of the subcutaneous tissues, especially of the eyelids and lips. The skin was dry and the hair was scanty. The mental capacity was even less than that of an average boy of 10 years of age. The speech was slow and he could do no work. In short, the case was one of advanced secondary cretinism readily explained by the fact that neither before nor after death could any trace of thyroidal tissue be found.

When arrest of development or destructive disease of the thyroid occurs early in life we find that the symptoms of primary cretinism, which are the same in the sporadic as in the endemic form, soon begin to appear. I can best illustrate the characters of this remarkable condition by a short description of a case which I have had the opportunity of seeing several times during the last few years with Dr. Bunting of Scotswood. A single woman, aged 28 years, was first seen in June, 1895. In infancy the mother noticed that the extremities became blue and cold after washing and that the abdomen was prominent. After a fall in which the back was hurt at nine months of age growth became arrested and the symptoms of cretinism gradually developed. The patient now has the symptoms of advanced cretinism. She is only 34½ inches in height and the head looks relatively large, the forehead being broad and flat. The anterior fontanelle is not quite closed by bone, though it has a dense thick covering which yields but slightly when firm pressure is made. The hair is dark, fairly abundant, and coarse, but it grows well. The scalp is dry, rough, and scaly. The appearance of the face, body, and limbs shown in Fig. 12 is very characteristic. The expression is generally dull and fixed, but a broad grin appears at once if she is amused. The skin has a yellowish tint, but there is a slight flush in each cheek. All parts of the face are very considerably swollen, especially the eyelids, cheeks, and lips. The nose is short, broad, and turned up at the end. The mouth is large, the lips being thick and everted. The tongue is large and generally protrudes from the open mouth. The teeth are ill-developed and carious. The mother thinks that she has never yet lost her first set of teeth. The ears are large and prominent. The neck is short and thick and no trace of a thyroid gland can be felt. The subcutaneous swelling forms a soft elastic pad just above each clavicle. The abdomen is protuberant and there is a small umbilical hernia. The limbs are all short and stunted in appearance. There is well-marked lordosis of the spine. Both feet and hands are swollen and cold. The skin as a whole is dry and rough. There are two pigmented moles, one on the chest and the other on the cheek. The mammary glands are rudimentary, like those of a child, and there is no pubic hair. Menstruation has only occurred a few times and the flow has been very scanty. Her temperature is 96·3° F. at 3.30 P.M. She cannot read, write, or even dress herself. She can feed herself if inclined and sleeps well. She can walk slowly but rarely leaves the house and may be left alone in a chair without moving for two hours. The vocabulary is limited to a few words, such as "Ma," "Thomas," and "Pussy." She is easily amused and sometimes has fits of almost uncontrollable laughter. Such is the state which results from insufficiency, if not total suppression, of thyroidal secretion for 27 years. I shall refer to the subsequent histology of this case later.

As in myxœdema in the adult so in cretinism we find different degrees of severity. As the success of treatment depends so much upon an early start being made with it I would urge the importance of carefully considering the possibility of cretinism in all cases where some arrest of development is noticed early in life. We find various intermediate types between the extreme forms of which I have given an example and ordinary myxœdema dependent upon the age at which the disease first commenced. The older the child at the time of the onset the less marked the want of development and the more nearly the disease resembles the adult type.

RENEWAL OF THYROID SECRETION.

(*a*) *By grafting.*—The various results of athyroidism which we have just considered show that a sufficient supply of thyroid secretion is essential for the completion of the chemical changes in the cell which constitute normal metabolism and which, as might be expected, are even more important during the period of growth than in the adult. When the supply of the secretion is renewed, by means we shall now consider, metabolism is once more completed in a normal manner, the central nervous system and other tissues return to their natural condition, and in cretins the metabolism is so markedly re-awakened that general growth which may have been arrested for 10 or even 20 years again progresses, sometimes with surprising rapidity. The maintenance of a supply of thyroid secretion by artificial means when the natural source has failed is thus a question of great practical importance. The experiments of Schiff and von Eiselsberg[23] showed that a portion of a thyroid gland which had been successfully transplanted into the subcutaneous tissues of a dog or cat was able to maintain a sufficient supply of secretion after removal of the animal's own gland from the neck to avert the acute symptoms of athyroidism which usually follow this operation. A great advance was made by Victor Horsley[24] who suggested that a similar procedure should be adopted in man to arrest the inevitable progress of myxœdema to a fatal termination. This method of treatment was carried out with good results by Bircher[25] and by Bettencourt and Serrano[26] as a marked improvement in the symptoms followed the operation. Unfortunately, the grafted gland does not appear to be able to maintain its independent existence for long, as after a time its function ceases and the symptoms return. In only one case has the improvement been manifested for more than a few months. This was in a case of myxœdema with melancholia recorded by MacPherson[27] in which all the symptoms disappeared after the operation and had not returned three years later.

(*b*) *By thyroid extract.*—The immediate improvement observed by Bettencourt and Serrano after grafting was attributed by them to absorption of the juice of the transplanted gland by the tissues of the patient. It then occurred to me that a much simpler method of maintaining the necessary supply of thyroid secretion would be the continued internal administration of the secretion itself. It has long been good practice to supply any deficiency in the secretion of the glands of the stomach by means of a glycerine extract of the peptic glands—an acid glycerine of pepsin. I therefore prepared a glycerine extract from the healthy thyroid gland of the sheep as a convenient form in which to give the secretion. There is no need for me to describe the actual method of preparation or composition of this thyroid extract as the original preparation has now been included in the New Pharmacopœia under the name of "liquor thyroidei." As the secretion normally passes into the blood mixed with the lymph I decided in testing the efficiency of the extract to inject it beneath the skin so that it might be absorbed by the lymphatics and so enter the blood as nearly as possible under normal conditions. This method was used at first both in man and in animals and by it the efficiency of the remedy was proved. It was afterwards shown independently by Howitz,[28] E. L. Fox,[29] and H. Mackenzie[30] that the extract was equally efficient when given by the mouth, so that this simpler method has since been employed both in animals and in man.

THYROID EXTRACT IN ATHYROIDISM IN ANIMALS.

The treatment of monkeys after thyroidectomy by thyroid extract has yielded some interesting results which help us to distinguish between the symptoms due to loss of the parathyroid from those due to loss of the thyroid when both these glands are removed at the same time. The following is a brief summary of the results I have obtained.

1. A male bonnet monkey. The thyroid gland was removed in the usual manner. No symptoms appeared during the first week after the operation. At the beginning of the second week there was a fine tremor of the arms and hands. Examination of the blood showed a slight diminution of the number of both red and white blood corpuscles. During this second week there was diminution of activity, increase of the tremors, and there were occasional clonic contractions of the muscles of the arm and forearm.

[22] Volkmann's Sammlung Klinischer Vortrage, No. 244, 1884.

[23] Ueber Tetanie in Anschlusse an Kropf-Operationen, 1890.
[24] Brit. Med. Jour., Feb. 8th, 1890, p. 287.
[25] Sammlung Klinischer Vorträge, No. 357.
[26] La Semaine Médicale, August 13th, 1890.
[27] Edinburgh Medical Journal, May, 1892.
[28] Ugeskrift for Laeger, Nos. 7, 8, 1892.
[29] Brit. Med. Jour., Oct. 29th, 1892, p. 941.
[30] Ibid., Oct. 29th, 1892, p. 940.

A slight swelling of the upper and lower eyelids appeared. In the fourth week there was marked inactivity, the characteristic attitude was adopted, and the tremors were well marked. There was distinct myxœdematous swelling of the eyelids and lips. The red corpuscles were diminished and the white increased in number. The temperature showed marked daily variations and was subnormal on three mornings. On the twenty-sixth day treatment was commenced by subcutaneous injection of thyroid extract and continued till the forty-fourth day, 20 minims in all being injected during this period. As a result of this treatment during the fifth week the tremors, swelling, and anæmia all diminished and there was more activity. The morning temperature still continued to fall and was only 95·4° on the twenty-second day. The following day the animal had an epileptic fit followed by an increase of the tremors and fibrillary muscular contractions and spastic rigidity of the flexors of the limbs lasting for some hours. After this the improvement steadily continued till at the end of the seventh week all the symptoms had disappeared and with the exception of a slight loss of weight the monkey was as well as before the operation. The treatment was discontinued and the symptoms returned again much in the same manner as they had at first. Treatment was again resumed but too late, as dysentery developed in addition to the myxœdematous symptoms and the animal died 13 weeks after the operation. Fig. 3 shows this animal after the return of the symptoms.

II. A male bonnet monkey. In this case the symptoms first began two days after thyroidectomy and were well marked by the fourteenth day when treatment was commenced by injections of a solution of the alcoholic precipitate of thyroid extract in glycerine and water. The symptoms had disappeared by the twenty-sixth day. The symptoms again returned and although improvement followed the use of thyroid extract death occurred after several severe convulsions on the sixty-ninth day.

III. In this experiment the symptoms commenced as early as the first day after thyroidectomy. Treatment was commenced on the fifth day by injections of a solution of a nucleo-albumin prepared from fresh thyroid glands by Halliburton's method in a 2 per cent. solution of sodium carbonate. There was some temporary improvement in the symptoms, but they returned in spite of continued treatment, and death took place on the twelfth day. This experiment, however, is of doubtful value, as Hutchison[31] has since maintained that a solution thus prepared would not contain the active secretion of the gland.

In these three experiments, though the actual presence of the parathyroid glands in the thyroid was not proved by microscopical examination, there can be little doubt that they were removed with it. In the two following experiments the animals were treated with thyroid extract for some time before as well as after the removal of the thyroid gland along with the parathyroids as ascertained by microscopical examination.

IV. A small male bonnet monkey was given one minim of thyroid extract by the mouth per diem for 44 days and then three minims daily for the next 31 days when the thyroid and the parathyroid glands were removed. The same dose of three minims was continued after the operation. No symptoms at all developed till the forty-second day after the operation. On this day it was noticed that on climbing down from the perch the monkey fell part of the way on to the floor of the cage and was unable to climb up again. It then showed general fibrillary twitching of the muscles in all parts of the body. The arms were rigid owing to spasm of the flexor muscles, which could be overcome without much difficulty but returned at once. The legs also were flexed at all the joints except the ankle-joints, which were extended. There was no subcutaneous swelling of the face or elsewhere. The rectal temperature was 100·6° F. A dose of six minims of liquor thyroidei was given but the animal became worse and died the same day.

V. A small male bonnet monkey was given one minim of thyroid extract by the mouth for 44 days, the daily dose was then increased to three minims for the next 42 days, when the thyroid gland was removed with the parathyroid glands. The dose of thyroid extract was continued as before. On the eleventh day after the operation there was some loss of activity and the lower eyelids were slightly swollen. After this there was progressive loss of strength and activity and the eyelids and lips became more swollen. Spastic rigidity of the limbs developed and on the nineteenth day after the operation the animal was found lying dead at the bottom of the cage. The swelling of the face was largely due to the presence of a fluid œdema which escaped when the skin was incised.

It is thus evident that although in some cases the symptoms which follow thyroidectomy in monkeys disappear when the loss is made good by giving thyroid extract, in others there is only an improvement and death afterwards results with acute nervous symptoms. Edmunds[32] has also found that under similar circumstances thyroid extract produces a marked benefit but does not save the life of the animal. From these facts and from the results of removal of the parathyroid glands in other animals it seems most probable that the acute nervous symptoms in the monkey such as the fibrillary twitchings, the spastic rigidity, and perhaps also the tremor and convulsions are largely due to loss of the parathyroids, while the subcutaneous swelling, dryness of skin, loss of hair, subnormal temperature, and changes in the blood are due to loss of the thyroid secretion. This conclusion receives further support from the close resemblance of the latter symptoms to those of primary myxœdema in man which we know to be the result of disease of the thyroid glands, there being no evidence as yet to show that the parathyroids are affected in this disease. If this be the correct explanation it is not surprising that these particular symptoms are not influenced by the thyroid extract.

TREATMENT OF MYXŒDEMA BY THYROID EXTRACT.

In primary and secondary myxœdema in man we see the results of loss of thyroid secretion pure and simple and consequently are able to remove the symptoms entirely by giving a sufficient supply of the secretion. Soon after I first determined to try this method of treatment in myxœdema I was fortunate enough to come across a well-marked case in a woman who, after the nature and experimental character of the treatment had been explained to her, was bold enough to give full permission for it to be carried out whatever the result might be. The patient having been shown at a meeting of the Northumberland and Durham Medical Society and the proposed treatment described it was commenced in April, 1891. The symptoms soon disappeared, proving the correctness of the conclusions which had led to the suggestion of the remedy. Nearly eight years have elapsed and this first case still remains free from myxœdema.

We may now briefly consider the method of carrying out this treatment of myxœdema. The main objects of the treatment are to remove the symptoms by restoring normal metabolism as rapidly as possible without risk to the patient, and when this has been accomplished so to regulate the treatment as to continue the supply of thyroid secretion in sufficient quantity to maintain the normal rate of metabolism of the tissues generally. For this purpose the treatment is divided into two stages. During the first stage the tissues are gradually brought back to a normal condition. This may, according to the severity of the symptoms, require from one to three months. As soon as the symptoms have entirely disappeared the first stage is completed. The condition of the atrophied thyroid gland is not influenced by the treatment so that if the artificial supply of secretion is discontinued at this or any other time of the patient's life all the symptoms of myxœdema will gradually return as I have found by actual experience. Thus the second stage of the treatment of necessity lasts as long as the patient lives. It is therefore necessary to make the permanent daily dose as nearly as possible equivalent to the normal amount of secretion. If the dose falls below this slight symptoms of myxœdema will reappear and if it is excessive a condition of thyroidism will be produced.

PREPARATIONS OF THYROID SECRETION.

Thyroid secretion can be given in several different forms. The actual gland itself containing the secretion may be used and is a useful form when the patient lives in some remote place or when it is necessary to make the treatment as inexpensive as possible. Arrangements can easily be made for the regular supply of one lobe of the thyroid gland of a freshly killed sheep twice a week by a butcher who has once been shown where the gland lies and the ease with which it may be

[31] Journal of Physiology, vol. xx., 1896.

[32] Proceedings of the Royal Society, vol. lxiv.

removed. From one-eighth to one-quarter of a lobe is a suitable daily dose of the sheep's gland, one-quarter of a lobe being equivalent to about 10 minims of liquor thyroidei. As the raw gland is somewhat nauseous it should be minced and taken in glycerine or some similar vehicle in order to make it palatable or it may be lightly cooked on the outside by frying or boiling before it is eaten. As a rule, it is much better to employ one of the preparations of the thyroid gland rather than what may be termed the crude drug itself. Of these two are now official, liquor thyroidei and thyroideum siccum, the former of which is simply the original liquid thyroid extract. The liquor thyroidei is the most convenient preparation for general use and in my experience the most efficient. It is prepared from a considerable number of glands at a time, so that the strength is uniform. In prescribing it should be ordered in the undiluted form and not more than a sufficient supply for a fortnight should be obtained at one time. The patient must be provided with a minim measure glass and measure out the dose of five or 10 minims as the case may be, adding a dessertspoonful of water at the time it is taken. This preparation is conveniently given in a single daily dose at bedtime. The dry thyroid of the Pharmacopœia may be given as a powder or made up into a pill or tablet. If the dried preparation becomes damp at all it is liable to decompose and become unfit for use.

METHOD OF TREATMENT.

In advanced cases the first stage of the treatment must be carried out with great caution, especially if any symptoms of degeneration of the cardiac muscle, such as attacks of syncope, dyspnœa on exertion, feeble or irregular pulse, or weak heart sounds are present. Under these circumstances the patient should be confined to bed at first and only small doses of from three to five minims of liquor thyroidei given each night. This dose if well borne may be gradually increased up to 10 minims. If not confined to bed these patients are apt to make use of their returning vigour too soon, before the heart has had time to recover and to adapt itself to the altered conditions brought about by the treatment. These advanced cases in which little exercise has been taken for months or even years are now rare, but in the early days of the treatment the importance of this caution was painfully impressed upon me by the deaths of two patients from syncope who had cardiac disease, after they had practically got rid of the symptoms of myxœdema. Any undue acceleration of the pulse up to 90 or 100 indicates that a reduction should be made in the dose and any signs of cardiac failure must be met by giving stimulants and digitalis. By far the greater number of cases which require treatment are now seen in the early stages of the disease before any cardiac symptoms have developed. In these the patient is able to go about as usual, though it is advisable to avoid any unusual exertion during the first stage of the treatment. A daily dose of 10 minims of thyroid extract may be given each night from the beginning and increased to 15 minims at the end of a fortnight if decided improvement has not already taken place. Any marked increase in the frequency of the pulse or rapid loss of weight is an indication for at once reducing the dose. Symptoms of gastro-intestinal catarrh have sometimes arisen during this first stage of the treatment especially if the raw gland has been used. They rarely if ever appear if a suitable preparation of the gland is used instead. If they do occur the thyroid treatment should be stopped until they have passed away and then smaller doses should be given when the treatment is again commenced. In many cases no other treatment beyond the daily dose of thyroid extract is required. When, however, there is a well-marked anæmia it is a good plan to give iron as well as thyroid extract. Five grains of dried sulphate of iron in a pill twice or thrice daily after meals is a suitable form in which to give it.

As soon as all the symptoms of myxœdema have disappeared the first stage of the treatment is completed. The second stage then commences and must of necessity last as long as the patient lives. During this stage the patient must continue steadily to take a daily dose of thyroid extract equivalent to the daily output of the gland before it became diseased or at any rate of that part of it which has become functionless. It is important that patients should understand this and that good health can only be maintained by the continued use of the remedy. To ensure this it is often better to describe the remedy as an essential part of the daily diet and not as a medicine so as to overcome the objection some persons have to taking what they regard as a medicine for such long periods. Of course, an occasional intermission of the treatment for a week or so has little or no effect, but if no thyroid extract is taken for three or four weeks the temperature falls one or two degrees below normal and the myxœdematous swelling of the face begins to develop again. If the extract is omitted for a longer period still all the original symptoms gradually reappear till at the end of three or four months the condition will be much the same as it was before any treatment was adopted. The most suitable dose for the second stage of the treatment is, generally speaking, 10 minims of the extract given once a day. If after a time any slight symptoms of myxœdema reappear the permanent dose should be increased to 12 or 15 minims. In none of my own cases has it been necessary to give more than 10 minims; in a few cases this dose is too large, as after a time it produces acceleration of the pulse. The permanent dose has then to be fixed at five or seven minims a day. In doubtful cases of myxœdema thyroid extract may be given as a means of diagnosis. For this purpose a dose of 10 minims should be given daily for three or four weeks. If the symptoms steadily diminish they are the result of thyroidal disease; if, on the other hand, no improvement takes place they are due to some other cause. This test is of great use in distinguishing some of the cases with anæmia and subcutaneous swelling from cases of anæmia with ordinary obesity which they often closely resemble.

RESULTS OF THE TREATMENT OF MYXŒDEMA.

When the treatment of a well-marked case of myxœdema is carried out on the lines just indicated very definite and interesting results are soon obtained. One of the earliest signs of improvement is in the return of the temperature to the normal level. This is illustrated by one case in which the temperature before treatment ranged from 95° to 96° F., whereas during the second, third, and fourth weeks of treatment it varied between 96° and 98°. As the temperature rises to normal the former sensitiveness to cold is lost and the frequency of the pulse is increased. The most striking changes are those which take place in the skin with its appendages and in the subcutaneous tissues. The myxœdematous swelling gradually disappears from all parts of the body so that the face and hands once more assume their natural appearance and the free movement of the limbs which has been considerably hampered by the swelling is regained. The reduction of the swelling is accompanied by a loss of weight which may amount to as much as two or even four stones. The skin, which as a result of the removal of the swelling may for a time remain loose and wrinkled, becomes warm and moist owing to a renewal of the secretory activity of the sebaceous and sweat glands. Not infrequently there is some desquamation which may occur in fine scales or in large flakes from the palms of the hands and soles of the feet, as observed by Byrom Bramwell.[33] The hair follicles resume their proper function, so that even where there has been complete baldness a good growth of hair is developed in the course of six or 12 months. Considerable changes are thus produced in the appearance of the patient and they are well illustrated by the four photographs shown in Figs. 8, 9, 10, and 11. They both illustrate the changes which take place in the appearance of the patient *pari passu* with the advance of the local disease of the thyroid gland and the result of treatment. This case was kindly placed under my care by Mr. James Angus of Newcastle-on-Tyne, and although I have published Figs. 8 and 9 before I venture to reproduce them along with two earlier photographs of the same case for which I am indebted to my colleague Dr. Thomas Oliver. Fig. 8 was taken in 1883, four years after the symptoms first appeared in 1879. Fig. 9 was taken in 1890, showing a more advanced stage of the disease, and Fig. 10 in 1891 just before the treatment was commenced when the disease had already existed for 12 years. Fig. 11 was taken in 1892 after treatment for seven months and shows that the swelling has disappeared and a good growth of hair has taken place. As already mentioned, this patient died from mitral disease in 1897 when the thyroid gland was found to be entirely converted into fibrous tissue and fat as was shown in Fig. 7.

In addition to these very obvious signs of improvement the feeling of lassitude passes away and normal muscular

[33] Brit. Med. Jour., March 24th, 1894, p. 618.

strength and activity are regained. As a result of this those who before treatment could barely walk a mile are enabled to walk long distances, climb mountains, and undertake various other forms of exercise, mental processes become more active, the memory improves, and the hallucinations disappear. In some cases in which actual insanity had occurred it also has been cured. If albuminuria

FIG. 8.

Four years after the commencement of the symptoms.

without actual renal disease has been present it disappears while the amount of urine is increased. The observations of Ord and White[34] show that the total amount of nitrogen eliminated is increased and that this increase is almost entirely due to the increase of urea in the urine. At first the amount of urea excreted may

FIG. 9.

Eleven years after the onset of the disease.

not only equal, but actually exceed, the normal average quantity. The number of red corpuscles in the blood increases. In patients who have not reached the menopause menstruation returns and takes place regularly even when there has been amenorrhœa for several years. In fact, the myxœdema is entirely cured though the fibrosis of the thyroid gland remains unaffected by the treatment.

[34] Brit. Med. Jour., July 29th, 1893, p. 217.

TREATMENT OF CRETINISM.

We have already considered the results of athyroidism in young animals and children and have seen how they are more serious than in the adult owing to the arrest of development. The treatment of a cretin consequently presents a more formidable task, but the results are in some respects even more interesting than those just

FIG. 10.

At commencement of treatment when the disease had lasted for 12 years.

described. I would again point out the importance of carefully considering the possibility of the presence of disease or lack of development of the thyroid gland in every case of arrest or delay of development in children. In all such cases it is important to look for slight signs of cretinism. There are of course other causes of arrest of growth, such as achondroplasia, but I have seen several cases where the ordinary symptoms of cretinism were not distinct and might easily escape observation if not searched for carefully, in which the rapid improvement following thyroid treatment has proved that the arrest of development was due to thyroidal insufficiency. The importance of early diagnosis in such cases lies in the fact that the earlier the treatment is commenced the better prospect there is of normal development of the central nervous system. Experience has already shown that in cretinism of some years' duration rapid as the improvement in the physical condition may be the intellectual development is much slower, so that when treatment is commenced late it is doubtful if the latter will ever advance as far as when treatment is started early. If any doubt exists as to the diagnosis it is a good plan to carry out the treatment for one or two months. If no distinct improvement takes place the want of development is not due to cretinism, for in other forms of arrested growth the treatment has comparatively little effect though it is worthy of trial. The treatment of early cretinism is carried out on

the same lines as the treatment of myxœdema in the adult. During the first stage gradually increasing doses of thyroid extract are given till the symptoms disappear. It is advisable in treating a small cretin to begin with a dose of one or two minims each evening, gradually increased by the addition of one minim each week or fortnight until a dose of five, seven, or 10 minims, according to the size of the child, is reached. As the child gets older it may be found necessary to increase the daily dose from time to time by the addition of another minim. If too large doses are given the pulse becomes too frequent, pains may be felt in the limbs and elsewhere, the temperature may rise above the normal level, and purging may follow. As in the adult the treatment must be continued as long as the patient lives. As soon as the symptoms have disappeared it is only necessary to determine the most suitable permanent dose and to ensure its uninterrupted administration.

In the treatment of cretinism which has lasted for some years we have a much more difficult task to perform, but very good results can be obtained. Even when the disease has already lasted 10 or 12 years, provided the patient is not more than 18 or 20 years old, a remarkable amount of growth can still take place. In these cases from three to five minims of thyroid extract may be given at the commencement and increased according to the progress observed. Even in cases in which the symptoms have lasted for 20 or 25 years some growth and marked improvement in all the symptoms take place. In cases of long duration attacks of syncope are not

FIG. 11.

After treatment for seven months.

uncommon. In such the earlier part of the treatment is more safely accomplished by keeping the patient in bed and giving small doses of one or two minims only at first.

Results of the Treatment of Cretinism.

When the necessary stimulus to the normal metabolism of growth is thus supplied to a cretin in the early stages of the disease the symptoms disappear. The swelling gradually diminishes in all parts of the body. The tongue, lips, and nose diminish in size so that the appearance becomes natural. The skin becomes soft and moist and the temperature rises to normal. Growth which at this early stage will only have been partially arrested starts afresh. If the treatment is continuously carried on in such a case from the earliest time at which the disease is recognisable there seems no reason to doubt that ultimately the child will grow up into a fully-developed healthy adult who, however, would of course at any time develop symptoms of myxœdema if his supply of the extract was discontinued. The amount of improvement which may take place in very advanced cases is well illustrated by the further course of the case (A) described and shown in Fig. 12. In this case the symptoms had been present for

FIG. 12.

A, aged 23 years, June, 1895; height 34½ inches.

some 27 years before treatment was commenced. The dose was at first one drop a day, and has been gradually increased till now she takes 15 drops, equal to about 12 minims of thyroid extract daily. At the commencement of the treatment growth had been arrested, apparently for many years, as she only measured 34½ inches in height. She now measures 38½ inches, having grown four inches in three and a half years. The hair is much less coarse than it used to be and the scalp is white and smooth. The swelling has greatly diminished so that the nose, cheeks, and lips are much smaller than they were and the whole expression is much more bright and intelligent. The mouth is kept closed and the tongue has become normal in size and no longer protrudes between the lips. The condition of the teeth does not seem to have improved except that she can now crack nuts which she was unable to do before. The elastic pads have disappeared from the supra-clavicular regions. A most remarkable development of the mammary glands, which before treatment were entirely undeveloped, has taken place. This is well shown in a recent photograph (Fig. 13) in which it will be seen that the nipples and

breasts are now very well developed. Some pubic hairs have grown and menstruation which had only occurred very scantily on a few occasions is now regular and abundant. The abdomen is less prominent and the umbilicus is retracted. There is still marked lordosis. The skin is much less dry and perspires freely when she is walking. She is much more energetic and the muscular strength has increased so that she can now walk two miles. The temperature has long been normal. She is distinctly more intelligent, her vocabulary has increased, she can recognise people and animals, and

FIG. 13.

A, February, 1899; height 38½ inches.

can make her wants perfectly understood. She is unable, however, to frame a sentence and uses only single words, or at most two or three together. She is careful and cleanly in her habits.

This case is a good example of the amount of improvement of which even the worst cases are capable. Greater improvement still has been obtained in cases of some years' duration in which the patients are still under 20 years of age. Thus in Dr. John Thomson's[35] patient, aged 18 years and eight months, 33½ inches in height, there was an increase in the height of four and three-eighth inches in 12 months; and in Dr. Byrom Bramwell's[36] patient, aged 16 years and four months, 29½ inches high, growth was at the rate of six and a half inches in six months.

The intellectual development is always much slower than the bodily growth and general improvement in all other respects. The shorter the duration of the symptoms has been at the commencement of the treatment the more rapid the improvement in the mental condition and I think it is only in cases in which the treatment is started early that we can expect normal intellectual development to take place. In cases of some duration it is important that a special education should be carried on at the same time as the treatment in order that the patient may be able to make the most of the renewed cerebral activity.

[35] Edinburgh Medical Journal, February, 1844.
[36] Brit. Med. Jour., Jan. 6th, 1894.

The Milroy Lectures

ON

THE EARTH IN RELATION TO THE PRESERVATION AND DESTRUCTION OF CONTAGIA.

Delivered at the Royal College of Physicians of London on Feb. 23rd and 28th and March 2nd, 1899,

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LECTURE III.[1]

Delivered on March 2nd, 1899.

AGRICULTURE.

MR. PRESIDENT AND GENTLEMEN,—The facts with which we have been dealing in these lectures show:—1. That there are certain organisms which are indigenous to the soil and ubiquitous. These organisms, if they contaminate a surgical wound or are inoculated, may cause septicæmia, erysipelas, malignant œdema, or tetanus. They are very possibly necessary saprophytes, and we recognise that it is useless to attempt to "stamp out" the germs of these surgical contagia, although (thanks to Lord Lister) the surgeon is able to protect his patient from the evils which arise from them and to prevent their cultivation in hospitals. Apart from accidental inoculation these organisms are not dangerous. We must often swallow them with our food and drink and inhale them with our breath and no practical harm results. These contagia are persistent in the soil and are probably most common in soils which are richest in organic matter. 2. The contagium of anthrax is apparently difficult to eradicate from a soil which has once been contaminated with it. This is probably due to the fact of sporulation and to the spore being very resistant to external influences of all kinds. The evidence, such as it is, points to the fact that in temperate countries at least the contagium dies out of the soil in time. M. Pasteur's experiments were vitiated by the circumstance that they were made in districts where the disease was and had been rife. More information is needed as to how far the infection of animals depends upon wounds of the skin or mucous membrane and on the vulnerability of the animals by the mal-hygienic conditions in which they live. It is possible that in tropical countries the bacillus anthracis is indigenous to the soil. Man apparently does not acquire anthrax by inhaling or swallowing pulverised earth. He is always infected through the medium of infected animals or their skins, flesh, or wool. 3. To what extent malaria is directly a soil disease, apart from the mosquito as a connecting link, is in the present state of our knowledge doubtful. There is no doubt, however, that malaria disappears before drainage and cultivation. 4. With regard to enteric fever, diarrhœa, plague, and some other diseases there can be no doubt that they are all favoured by filth although we are ignorant of the

[1] Lectures I. and II. were published in THE LANCET of Feb. 25th and March 4th, 1899, respectively.

precise way in which filth favours the occurrence of these diseases. Some might say that a filth disease is a soil disease and that there is no line of demarcation between the two. This is true, but it is nevertheless very necessary for practical purposes to distinguish the one from the other. We are all agreed that it is dangerous to allow the purlieus of a house to become sodden with liquid filth, but it might be equally dangerous to the public health to encourage the idea that it is dangerous to dung the land for fear of inoculating it with infectious disease. Happily, from the laboratories we get comfort in this matter. Sidney Martin has shown (as Dempster had previously shown with regard to peat) that "virgin soil," whether sandy or peaty, is, even when sterilised, fatal to the bacillus typhosus, and one naturally asks, What is virginity? and whether cultivated soils by excessive production do not tend, paradoxical as the question may sound, to return to that condition of virginity in which they are able to grapple with infective organisms? The evidence goes to show that cultivation and production are the enemies of dung infections. Robertson and Gibson found that a growth of grass was fatal to the bacillus typhosus. That dung contagia must be destroyed or their virulence be diminished by tillage is self-evident. Were it otherwise our race must long since have been extinguished. The race which has shown the greatest persistence in this world (the Chinese) is precisely that one which has systematically inoculated its native soil with dung contagia for three or four millennia. Politically they are said to be sick but physically and economically they are "going strong" and are likely to continue. 5. The fact that most of the alleged soil diseases are more rife in the crowded centres of population than in the rural districts is a fact which must not be lost sight of. Whether this be due to the greater vulnerability of town populations or to the soakage of the purlieus of the house from leaking sewers it is difficult to say. In any case it is incontestable that soil diseases (so-called) are most rife precisely in those spots where the ground is not cultivated.

Infective organisms contained in dung have to run the gauntlet of many enemies, such as dogs, sparrows, rats, flies, maggots, beetles, earthworms, moles, sunlight, fresh air, innumerable saprophytes (both aerobic and anaerobic), and the chemical action of the roots of plants. Of course, there may be spores which emerge from these ordeals unharmed and still virulent, but it is evident that, being mortal as we are, they are likely to succumb before the digestive and disintegrating processes which they encounter. The bulk of the evidence goes to show that contagia must be largely destroyed in the soil and that agriculture is really the cornerstone of preventive medicine. It becomes of great importance, therefore, to devise means by which the fertilising material of our towns may be applied to the soil with safety and despatch.

I may be pardoned for reverting to the method of dealing with human excreta which I have practised now for 12 years in my experimental garden at Andover: (1) the excreta are moved every day so that there is no accumulation of filth near the dwelling; (2) they are put just below the surface of freshly-dug ground so that they are out of the reach of flies; and (3) the ground is planted with plants of the cabbage order as quickly as may be so that very soon there is no possibility of dust being blown off the surface of the ground, and the mass of living cabbage leaves freshens the air. I cannot believe that dust from agricultural land is a danger in this country whatever it may be in the tropics. In my garden the ground treated in the manner stated, apart from the growth of cabbages, soon becomes coated with a green growth of alga. Mr. A. Gepp of the Natural History Museum who visited my garden last summer took some of this growth away and very kindly examined it and he pronounced it to be an alga—"chiefly vaucheria sessilis (in good fruiting state) with a little ulothrix, a gloeocystis, and an oscillatoria." Such a growth effectually prevents the possibility of dust.

Dr. Samuel Hyde[2] speaking on the Open-Air Treatment of Consumption says: "Sparseness of vegetation, like thinness of population, is a climatic factor favourable to the treatment of consumption. Where vegetable life abounds there vegetable decomposition must also abound and *vice versâ*. Wherever there is life we have a corresponding amount of death accompanied necessarily by the products of decomposition." This is quite true and our experience teaches us that, provided the supply of food be adequate, a high level of health may be maintained in places where there is little or no vegetation, as upon the sea and on alpine heights and in arctic solitudes. "Wherever there is life," says Dr. Hyde, "we have a corresponding amount of death." That is true, but the converse is also true and we may say that wherever there is death we have the potentiality of a corresponding amount of life. I believe that what I have called the circulation of organic matter is a beneficent fact from which there is no escape and that whether we derive good or ill from the inevitable processes of death and decay depends very much upon ourselves. We must never forget that vegetation purifies the soil, freshens the air, rests the eye, and prevents dust, and these facts must be recognised as to a great extent counterbalancing the evils of dead leaves.

There are always *pros* and *cons* which have to be weighed. Nothing makes entirely for good or entirely for evil and we have always to balance our accounts and to see whether the general effect be good or ill. The British sanitarian is so circumstanced that he need not trouble himself at all about the most important of all sanitary considerations—viz., food-supply. He is busy in burning or washing into the sea every kind of fertilising matter, and if a general coal strike or a war were to suddenly bring famine with its attendant diseases to our doors he would protest that that was no concern of his. With our steadily diminishing birth-rate and the daily increase of institutions for the reception of those whose moral, mental, or physical diseases prevent them from earning their own living it is difficult to believe that the stamina of our highly civilised urban populations is increasing. Apart from the question of food-supply, it is, I believe, absolutely necessary to encourage agriculture in order that our race may be maintained in vigour. The strong contrast which exists between the agriculturist and the town worker in the matter of health is well known.

Dr. Tatham's letter to the Registrar-General on the mortality of males engaged in certain occupations in the three years 1890–92, which constitutes Part II. of the Supplement to the Fifty-fifth Annual Report to the Registrar-General, shows clearly enough that the agricultural classes in this country enjoy a large measure of health. Dr. Tatham's statistics refer to occupied males between the ages of 25 and 65 years and the tendency to disease and death is indicated by a mortality figure, the mortality for all males between 45 and 65 years of age being taken as 100. The following table taken from p. 18 of this report shows the mortality of three great classes of the community with perfect clearness.

Table (deduced from Table IV.) showing the mortality from certain specified causes in each of three sections of occupied males, as compared with that among all occupied males, the mortality of the latter being taken as 100 in each case.

	All occupied males.	Occupied males, London.	Occupied males, industrial districts.	Occupied males, agricultural districts.
All causes	100	120	131	72
Influenza	100	100	100	100
Alcoholism	100	138	146	54
Rheumatic fever	100	100	114	86
Gout	100	300	100	100
Cancer	100	134	109	91
Phthisis	100	150	121	73
Diabetes	100	114	100	100
Diseases of the nervous system	100	107	132	77
Diseases of the circulatory system	100	107	122	75
Diseases of the respiratory system	100	124	166	51
Diseases of the liver	100	111	119	89
Other diseases of the digestive system	100	100	129	82
Diseases of the urinary system	100	137	122	78
Accident	100	86	105	79
Suicide	100	129	114	86
Other causes	100	91	130	76

The following table which is deduced from Table IV. shows the mortality from certain specified causes in the agricultural class as a whole

[2] Brit. Med. Jour., Oct. 8th, 1898.

and in its several divisions as compared with the standard mortality among all occupied males, the latter being taken as 100.

—	All occupied males.	Occupied males in agricultural districts.	Agricultural class.	Agriculturists in agricultural districts.	Farmer, grazier, &c.	Farmer, grazier, &c., in agricultural districts.	Farm labourer.	Labourer in agricultural districts.	Gardener, nurseryman.
All causes	100	72	63	64	59	53	66	70	58
Influenza	100	100	109	112	115	112	112	118	82
Alcoholism	100	54	31	31	46	31	31	31	31
Rheumatic fever	100	86	86	71	86	71	71	57	100
Gout...	100	100	50	50	50	100	50	50	50
Cancer	100	91	82	84	82	77	82	86	82
Phthisis	100	73	57	63	43	44	62	70	61
Diabetes	100	100	86	86	143	157	71	71	57
Diseases of nervous system...	100	77	62	63	62	50	65	71	57
Diseases of circulatory system	100	75	66	68	61	52	71	75	61
Diseases of respiratory system	100	51	52	49	41	29	58	57	48
Diseases of the liver	100	89	63	59	96	81	48	56	63
Other diseases of digestive system	100	82	82	75	96	75	79	75	64
Diseases of urinary system	100	78	59	59	71	68	51	56	63
Accident	100	79	63	68	53	54	74	77	39
Suicide	100	86	71	71	100	129	57	50	71
All other causes	100	76	73	76	65	61	79	86	61

Out of the 16 causes specified in this table, there is only one in which the mortality of agriculturists as a class exceeds that of occupied males generally. The exception is influenza, the mortality from which disease shows an excess equal to 9 per cent. The chief excess under this heading probably occurred in the first quarter of the year 1892, which was marked by a severe outbreak of influenza specially affecting the country districts. The mortality among agriculturists from phthisis does not exceed 57 per cent., and that from diseases of the respiratory system does not exceed 52 per cent. of the standard mortality among occupied males, and their mortality from all other diseases of the local class is considerably below the same standard.

These tables show conclusively that agriculturists are among the healthiest class in the community and that even the farm labourer in the matter of health is 33 per cent. better than the average. This is a matter of great interest and importance. He is often represented as half starved, miserably housed, a martyr to rheumatism, and poisoned by filthy water. As a matter of fact as regards sobriety and health he might be taken as a model by the rest of the industrial classes. There is another point of view from which agriculture is of great importance. We are beginning to find out that a factory hand who has to keep pace with steam machinery becomes "too old for his work" at a comparatively early age. Defects of eyesight or hearing or a lessening of acuteness and nimbleness soon unfit a man for employments where dexterity is of more importance than experience. There has been much talk of late of "old age pensions," but it must be admitted that even if the financial difficulties of the question could be overcome the prospect of being *without employment* and existing on a pittance without any true interest in life after the age of 55 years is not cheerful. I believe that the practice of agriculture is the only remedy for this and that the best old age pension will be found in the possession of an acre or so of land. Not only are the ordinary horticultural operations all possible for a man long after he is capable of attending to machinery but such a possession would give him an interest in life and he would find that the productiveness of his land would certainly increase with time and in direct proportion to the amount of skill and labour expended in tillage and cultivation and the quantity of organic manure placed upon the soil.

The greatest need of our country at the present day I believe to be an increase in the facilities for the transfer of land. Many of the above facts appear to show that the practice of agriculture is absolutely essential, apart from the question of food, for the maintenance of the vigour of our race. Anything which discourages or increases the difficulties of agriculturists can hardly be in the interests of the public health.

THE MAINTENANCE OF THE FERTILITY OF THE SOIL.

There is much evidence to show that dung is absolutely necessary to maintain the fertility of the soil. In a paper by Sir John Lawes and Sir Henry Gilbert on the valuation of unexhausted manures[3] the difference between organic manures and mineral manures is well brought out. The lasting effects produced by farmyard manure (14 tons to the acre) are shown in the annexed table.

TABLE I.—*Experiments with Farmyard Manure on Permanent Grass Land.*

—	Unmanured every year.	Manured 1856–63; unmanured since.	Excess of manured over unmanured.
	cwt.	cwt.	cwt.
8 years 1856–63 (1st crops only)	23¼	42½	19¼
12 years 1864–75 (1st crops only)	19⅝	32¾	13¼
20 years 1876–95 (1st and 2nd crops)	25¼	29¼	4

In only one year—1893, a year of drought—did the manured plot give less produce than the unmanured. The authors say: "It is true that the application of 14 tons of farmyard manure per acre per annum for eight years in succession is an unusually heavy dressing; but it is of interest to know that the residue was very materially effective for some years, and that it was more or less so for THIRTY-TWO YEARS after the application" (the capital letters are my own). The following table giving experiments with barley tells the same tale.

TABLE II.—*Experiments with Barley 1852–96.*

—	Unmanured every year.	Mixed minerals every year (no nitrogen).	Farmyard manure. Every year.	Farmyard manure. 20 years 1852–71; unmanured since.
	Bushels.	Bushels.	Bushels.	Bushels.
20 years 1852–71 ...	20	27½	48¼	48¼
25 years 1872–96 ...	12⅜	16½	49¼	29

The above table shows that the effect of the farmyard manure is very appreciable for at least a quarter of a century. It also shows that when farmyard manure was used every year the yield for the final 25 years was greater than in the first 20 years. It also shows that the increase by using mineral manures without nitrogen is appreciable but slight. The use of rape-cake as an organic manure for barley gave interesting results which are set forth in Table III.

TABLE III.—*Rape-cake as a Manure for Barley 1852–91.*

—	Rape-cake alone.	Rape-cake with mixed mineral manures and nitrate of soda.
	Bushels per acre.	Bushels per acre.
20 years 1852–71 ...	45½	49¾
" " 1872–91 ...	37½	41¼

It is to be noticed that the reduction in produce in the second 20 years as compared with the first amounted to more than eight bushels per acre. The reduction in the second 20 years was, in the opinion of the authors, mainly due to less favourable seasons, but nevertheless it is shown that

[3] Journal of the Royal Agricultural Society, vol. viii., 1897, p. 674.

the yield with farmyard manure for the 25 years 1872–96 was 49 bushels as against 48¼ for the 20 years 1852–71. The experiments made in growing clover on rich garden soil are of great interest. This has been done for 40 years in a part of the Rothamsted kitchen garden which has been in cultivation for two or three centuries. The average yield for the 40 years was 59¼ cwt. or nearly three tons of hay which "would be a very good yield for the crop grown only occasionally in the ordinary course of agriculture." The average yield in the first 10 years was much greater than in the subsequent 30 years and averaged 95½ cwt. and the maximum yield appears to have been about 148 cwt., or nearly seven and a half tons to the acre. In 1857, after the removal of the crops of the fourth year of the experiment, the surface soil nine inches deep contained four times as much nitrogen as the average of the Rothamsted arable soils to the same depth and nearly five times as much as the exhausted arable land where red clover had failed. The experiments on wheat with artificial manures are equally instructive.

TABLE IV.—*Showing the Yield of Wheat in Bushels per Acre*

Period.	Mixed mineral manure— Alone.	And NH_3 86 lb. N.	And NH_3 129 lb. N.	And NH_3 172 lb. N for first 13 years (1852–64); unmanured for last 19 years.
	Plot 5	Plot 7	Plot 8	Plot 16
13 years 1852–64	18⅜	37½	39	39½
19 years 1865–83	13½	29¾	34¾	14¾

In the above experiments we find, no dung being used, that the yield is less in the second period than in the first, and that when the large amounts of artificial manure were withdrawn in Plot 16 the yield dropped almost at once. The authors say: "There is, in fact, abundant evidence to show that there is but little effective manure residue after the growth of a grain crop by the application of ammonium salts; and there is little doubt that the produce of one and a half bushels of grain and its straw per acre per annum more over the 19 years after the cessation of the application of ammonium salts than on Plot 5 with the mineral manure alone is, so far as it is to be attributed to residue, mainly due to the increased *crop residue*—stubble and roots accumulated during the 13 years of the application; and much the same may be said of the after-effects when grain crops have been grown with nitrate of soda." Again: "When organic matter, animal or vegetable, is applied to the soil as manure its complete decay and the complete liberation of its fertilising constituents extend over a considerable period of time. Poor land cannot be suddenly brought into *condition* by the consumption on the farm of purchased foods. Nor can condition—that is, accumulated fertility—be at once withdrawn by suddenly stopping the use of foods."

Food-supply.—Sir William Crookes, the President of the British Association, in his address (Bristol, 1898) drew attention to the fact that if population continued to increase we might expect to be short of wheat. Our remedy was to increase the fertility of the wheat-growing area of the world and, taking, as was perhaps but natural, a purely chemical view of fertility, he put forward the proposition that the productiveness of the soil might be expected to bear a direct ratio to the amount of fixed nitrogen which is applied to it and he found comfort in the fact that after the exhaustion of the nitre beds of Chili and the guano beds of Peru the chemist of the future would be able by the aid of electricity generated by Niagara and other natural forces to fix the atmospheric nitrogen for the benefit of the farmer. In the course of his address Sir William Crookes made allusion to the sewage question in the following words:

"There is still another and invaluable source of fixed nitrogen. I mean the treasure locked up in the sewage and drainage of our towns. Individually the amount so lost is trifling, but multiply the loss by the number of inhabitants and we have the startling fact that in the United Kingdom we are content to hurry down our drains and watercourses into the sea fixed nitrogen to the amount of no less than £16,000,000 per annum. This unspeakable waste continues and no effective and universal method is yet contrived of converting sewage into corn. Of this barbaric waste of manurial constituents Liebig nearly half a century ago wrote in these prophetic words: 'Nothing will more certainly consummate the ruin of England than a scarcity of fertilisers—it means a scarcity of food. It is impossible that such a sinful violation of the divine laws of nature should for ever remain unpunished, and the time will probably come for England sooner than for any other country when, with all her wealth in gold, iron, and coal, she will be unable to buy one-thousandth part of the food which she has during hundreds of years thrown recklessly away.' The more widely this wasteful system is extended, recklessly returning to the sea what we have taken from the land, the more surely and quickly will the finite stocks of nitrogen locked up in the soils of the world become exhausted. Let us remember that the plant creates nothing; there is nothing in bread which is not absorbed from the soil, and unless the abstracted nitrogen is returned to the soil its fertility must ultimately be exhausted."

Sir John Lawes and Sir Henry Gilbert in a communication addressed to the *Times* on Dec. 2nd, 1898, point out that even supposing that atmospheric nitrogen could be fixed at a remunerative price, the addition of nitrates without the addition of the other mineral constituents necessary for wheat growing would be of no permanent use; but they express the opinion that the stores of nitrogen and other fertilising salts existing in our own soils and the soils of foreign countries can be made available by thorough tillage and proper rotation of crops. The land wants labour and the production of wheat is likely to be proportionate to its market value. They point out that the average wheat production of the *unmanured* plot at Rothamsted (over 13 bushels) is greater than the average of the whole of the United States, a fact mainly due to proper tillage and thorough weeding.

It is tolerably evident that fertility is not merely a chemical question. The year 1898 was remarkable for a fine wheat crop in this country. The yield is said to have averaged 35 bushels instead of 28 or 29 bushels per acre. Sir John Lawes, in his annual letter to the *Times* (Oct. 22nd, 1898) on "The Wheat Crop of 1898" states that at Rothamsted the yield on the experimental plots was as under:—

TABLE V.—*Wheat Crop in 1898.*

—	Bushels per acre.	Cwts. of straw.
Plot 3, unmanured	12	12¼
Plot 9, nitrates	23½	33¾
Plot 7, ammonia salts	28⅜	44⅜
,, 8, ,, ,, ...	29⅜	54⅜
Plot 2, farmyard manure	38	56¾

In 1898 at Rothamsted the plot dressed with nitrate of soda yielded 23 bushels, as against 38 bushels on the farmyard plot, and in explanation Sir John Lawes says: "For only the second time during a period of more than 40 years the wheat plant was much injured where we have used the heaviest dressing of nitrate of soda for want of enough rain to form and distribute a sufficiently dilute solution of it; and a similar result occurred in the year of drought of 1893; whilst in this year, 1898, the barley plant was much injured with only half the amount of nitrate applied." Sir John Lawes also gives the average yield of these five plots for periods extending over 46 years.

TABLE VI.—*Wheat Crop, 1852–97.*

—	Unmanured.	Farmyard.	Ammonia salt.	Ammonia salt.	Nitrate of soda.
36 years 1852–87	13	33⅞	32⅞	36½	36⅞
10 years 1888–97	12¼	40⅞	34¼	37⅛	33⅛
46 years 1852–97	12⅝	35¼	33⅛	36⅞	36⅛

From the above table it will be observed that not only has farmyard manure proved to be practically the equal of artificial manures for nearly half a century but that during the last ten years the yield from it has been considerably more than that of any of the artificially manured plots. It is interesting to observe, also, that had the wheat-growing area of this country in the year 1898 been sprinkled with nitrate of soda after the manner of Plot 9 at Rothamsted the yield might have averaged only 23 bushels instead of 35 bushels. On 2,000,000 acres, which is approximately the wheat area of the United Kingdom for 1898, this means a deficit of 24,000,000 bushels or 3,000,000 quarters. The chemical analysis of a soil often fails to give the clue to its fertility or sterility. Mr. Robert Elliot, in a paper on

"The Value of Plant-roots as Tillers of the Soil,"* quotes Sir John Lawes to the effect that "All our experiments tend to show that it is the physical condition of the soil, its capacity for absorbing and retaining water, its permeability to roots and its capacity for absorbing and radiating heat, that is of more importance than its, strictly speaking, chemical composition." It is, in fact, abundantly evident that the biological side of fertility is quite as important as the chemical and that organic manures are absolutely necessary to maintain the fertility of the soil, and that of all organic manure there is nothing to be compared with dung. If all that comes from the land be returned to it there can be no reason why the agriculturist should trouble himself with chemical theories. He has only by labour to maintain the soil in a good physical condition and he may rest assured that its fertility will increase.

SANITATION IN HOLLAND.

In Holland the connexion of *sanitation* with agriculture is far closer than with us and it is possible that we may derive some useful hints from our neighbours. In Holland the sanitary problems are of a formidable kind. The level of the country varies from a few feet above to a few feet below the mean level of the German Ocean, and it is needless here to recount how the Dutch people, marvellous for their shrewdness and untiring industry, have maintained a successful warfare against the forces of nature. With the exception of two or three inconsiderable areas the whole of the Kingdom of the Netherlands is a flat plain intersected at very frequent intervals by canals and rivers. These watercourses are all sluggish and in some of them the slow current is maintained artificially by pumping. It may be said that every Dutchman lives within a few yards of a watercourse of some kind, be it ditch or canal. These canals form a very cheap and admirable means of internal communication and in consequence the barge population is very large indeed. The population of Holland tends steadily to increase, such increase being most marked in the big towns.

In no country in Europe, probably, has the state of public health improved more remarkably than in Holland. This is well shown by the following table which is taken from the "Annuaire Statistique de la Ville d'Amsterdam," 1896. The decline of the death-rate has been uniform and continuous since 1884, but for the sake of conciseness the years 1877, 1880, and every fourth year thereafter alone have been given.

Nombre des décès (mort-nés exclus) par 100,000 habitants de la population moyenne dans les cinq grandes villes des Pays-Bas, années 1877-96.

Années.	Amsterdam.	Rotterdam.	s'Gravenhage.	Utrecht.	Groningen.	Les 5 villes.
1877	25,00	25,32	21,66	23,91	29,51	24,70
1880	27,00	24,65	23,38	27,10	24,39	25,74
1884	27,87	27,01	24,87	26,38	22,00	26,67
1888	21,82	21,26	20,11	22,56	20,04	21,38
1892	19,78	23,26	20,32	23,84	17,27	20,89
1896	17,77	18,27	16,27	19,04	16,01	17,65

The causes of this improvement in the death-rate are probably the same as have operated throughout Western Europe generally. These causes are: (1) the improvement in the physical and moral condition of the lower strata of society; (2) sanitation in its widest sense; (3) the rapid increase of population especially in the towns, causing a dilution of the high death-rates in the old crowded portions by the lower death-rates of new settlers in the outskirts; and (4) the decrease in the birth-rates. In Holland, as in England, the importance of pure water, especially for town populations, is abundantly recognised, and public supplies have within recent years been carefully protected from pollution and filtered before being distributed. The risk of drinking canal water must have been very great indeed. The mode of dealing with fæcal matters is necessarily different from ours. In Holland water-closets are the exception and not the rule and while the slop water of the houses is allowed to flow into the canals the fæces are collected and used for agricultural purposes. During a visit to Holland in September, 1898, I was able to obtain the Dutch death-returns for 1885-89 and for 1889-94, a period of 10 years in all. For this I have to thank Mr. Verryn Stuart, the secretary of the Statistical Commission at The Hague, who most courteously procured for me the volumes containing the returns in question.

The Netherlands.

Provinces.	1885—1890. Total deaths.	1885—1890. Deaths from typhoid and typhus fevers.	1885—1890. Proportion of typhoid and typhus fevers to total.	1890—1894. Total deaths.	1890—1894. Deaths from typhoid and typhus fevers.	1890—1894. Proportion of typhoid and typhus fevers to total.
North Brabant ...	60,436	245	1 in 247	62,808	257	1 in 244
Guelderland	53,706	313	1 ,, 171	55,713	308	1 ,, 181
South Holland ...	110,964	563	1 ,, 197	112,139	462	1 ,, 243
North Holland ...	90,959	621	1 ,, 146	89,494	713	1 ,, 125
Zealand	20,456	93	1 ,, 220	20,390	125	1 ,, 163
Utrecht	25,837	166	1 ,, 156	26,098	184	1 ,, 142
Friesland	31,851	263	1 ,, 121	30,893	227	1 ,, 137
Overyssel	33,765	280	1 ,, 120	34,145	238	1 ,, 143
Groningen	25,594	253	1 ,, 101	25,988	237	1 ,, 110
Drenthe	13,653	90	1 ,, 152	14,564	107	1 ,, 136
Limburg	26,352	100	1 ,, 263	28,701	125	1 ,, 229
Kingdom	493,573	2987	1 ,, 165	500,933	2983	1 ,, 168
1885-94						
Kingdom	994,506	5970	1 ,, 166	—	—	—

Taking the population for 1885-94 at 4,500,000 the average annual death-rate is 18·26 and the typhoid fever and typhus fever death-rate is 0·13 per 1000.

It will be observed that in Holland generally the death-rate from enteric fever compares favourably with our own. Knowing as we do the great risk of drinking sluggish water liable to fæcal contamination (which has been exemplified in the Tees valley) the low enteric death-rate in Holland is not a little remarkable. Enteric being a fever of slow and insidious onset it is impossible in sporadic cases to say where or how the patient may have been infected and in cities with an ever-shifting population this difficulty is accentuated. That being the case it will not be without interest if I give a few particulars concerning the provinces of Groningen and Friesland which I visited in the vacation of 1898. These two provinces are almost entirely devoted to dairy farming, the breeding of horses and cattle, and agriculture. The shifting and travelling population is a small one and it is here if anywhere that we may learn the effect of local habits and customs on the public health.

The town of Groningen with 63,863 inhabitants is in point of population the fifth town in Holland and a reference to the table will show that the improvement in its death-rate in the past 20 years has been as remarkable as that observed in the other Dutch cities or in any town or city in this country. In this town as also in Leeuwarden, the capital of Friesland, and in the great majority of Dutch towns the fæcal matter is collected in pails and it is probable that in the whole extent of the two northern provinces of Groningen and Friesland there is not a water-closet to be found. The whole of the fæcal matter is scrupulously and religiously collected and returned to the soil. Dutch cleanliness is proverbial and certainly I have never been in a town so exquisitely clean as is the town of Groningen. The accumulation of ordure in the streets and backyards is simply not tolerated and the inhabitants coöperate with the scavengers in clearing away all refuse as quickly as possible. The collection of fæcal matter is very simple. The closet-pails are much smaller than those which are commonly used in this country and they are emptied twice or thrice a week or daily if the householder is ready to pay a small fee. The collecting cart is really a tank upon wheels with a sort of hood projecting behind like the hood of a carriage facing the wrong way. The pails are brought out, and the man and pail are hidden by the hood as the contents are simply tipped into the tank. The pails even when full being such as one man can lift easily the collection is probably ten times as rapid as is the case in those English towns which make use of huge two-man pails which weigh 50 lb. and more when empty. Again it is obvious that the Groningen authorities do not make the mistake of hauling about an immense weight of pails which adds enormously to the expense. The depot where the material is collected is on the outskirts of the town where a wharf has been constructed with a view to its removal by barge for the purposes of the farmer. Here, again, the arrangements are very simple. The stuff is simply stacked beneath rough sheds covered with corrugated iron. The men employed have found out exactly how to do it and by arranging a layer of street sweepings and rubbish (dung, straw, paper, rags, &c.) with peat ashes (the fuel used in this district is almost exclusively peat) alternately with a layer of pail contents the whole mass drains and consolidates into a very rich black manure

* Journal of the Royal Agricultural Society, vol. viii., p. 469.

which the farmer highly appreciates. The floor of the depôt is concreted and provided with channels so that the urine drains away into a large tank whence it is pumped into barges for the use of the agriculturist. Considering the work which went on in it, this depôt was wonderfully neat, the stacks were as evenly made as the best hay stacks, and the paths between them were quite free from befoulments. The smell from the putrid draining was, to say the least, powerful but the solid stuff soon ceases to be very offensive. There were large numbers of flies in this depot but I frequently remarked that the flies in the town of Groningen were not nearly so troublesome as is the case in cities less carefully scavenged.

In the town of Leeuwarden the pails are taken to and from the depot but the pails are much smaller and lighter than those in use in England so that 54 of them (three tiers of 18 each) can be carried on a one-horse lorry. In the 10 years 1885-94 there were in each of the provinces of Groningen and Friesland 490 deaths from enteric fever and typhus fever, 980 deaths in all or an average of 98 per annum in a population of some 600,000, giving a rate for typhus fever and enteric fever of 0·16 per 1000. During the same period there were 97 deaths from the same cause in the town of Groningen and 27 in the town of Leeuwarden, or 124, giving a yearly average of 12·4. These figures are not large but they show that as regards these diseases the condition of Groningen was slightly worse than the town of Leeuwarden. As in England so in Holland, the death-rate from enteric fever has been falling steadily and the returns for the last available year (1897) are very instructive. From these returns I find that in the province of Groningen with 296,521 inhabitants there were 23 deaths from enteric fever in 18 parishes, giving a death-rate of 0·08, and in the province of Friesland, with 339,425 inhabitants, there were 19 deaths from enteric fever in 12 different parishes, giving a death-rate of 0·056 per 1000. It is a remarkable and most interesting fact that in 1897 there was no death from enteric fever in either of the capital towns of Groningen or Leeuwarden, containing over 95,000 inhabitants (Groningen 63,863 and Leeuwarden 31,598).

The figures given above must be taken to show that in these two provinces there is no serious endemicity of enteric fever. When we consider that dairy farming is the staple industry of these provinces, that milk which is most sensitive to typhoid fever infection is everywhere abundant, and that human excreta containing a certain proportion of typhoid fever excreta are used, and have been used for ages, to manure this fertile district, which lies almost in the water, the comparative freedom from enteric fever seems remarkable and very full of instruction.

These facts seem to me to afford a very large measure of proof that there is no inherent danger in the methods of sanitation pursued in Groningen and Friesland and, in fact, in Holland generally. Dutchmen are eminently shrewd, thrifty, industrious, and methodical. The interiors of their dwelling-houses and cattle-houses are, as a rule, exquisitely clean and neat and on the farm one is constantly confronted with the same characteristics. In the agricultural districts nothing is ever thrown into the ditches or watercourses. On the contrary, everything is taken out of them that can be turned to profit. These ditches must be kept clean and the banks of them need constant attention. The banks are kept in repair largely by the mud which is removed from the ditch and whatever the ditch will grow in the shape of rush or weed or willow is all carefully harvested and turned to account for thatching or for litter or for basket work. The Dutch farmer never feels the effect of drought and this is one secret of his success. His endless watercourses serve for fences and afford a cheap and ready means of transport. They are a source of small profit in various ways and most certainly they are never allowed to carry away from the farm anything which possesses manurial value. The methods of the Dutch agriculturist are slow and sure and steady. He has had to contend with the forces of nature and has got the upper hand and is now ahead of the whole world in exacting labour and profit from wind and water.

It is very difficult to appraise the fertility of a district. The area of Friesland is given as 331,030 hectares, of which 206,718 are pasture and 47,317 are arable. These 254,035 hectares of land under cultivation are farmed by 14,049 farmers, of whom 5374 are freeholders. The average holding would thus appear to be 18 hectares or about 43 acres, and as one travels through the province the substantial farmhouses appear to be dotted over the country with something like mathematical precision and the cattle (of which there were 233,562 in the province in 1897) appear to be innumerable.

Groningen contains a considerable amount of waste land. The pastures are less extensive than in Friesland and there is a greater area under the plough. In 1897 I find that in Groningen 7351 hectares of wheat produced 35 hectolitres per hectare; 4702 hectares of barley produced 41 hectolitres per hectare; and 33,135 hectares of oats produced 57 hectolitres per hectare. These returns are large and are the equivalents of 40 bushels of wheat to the acre, 46 bushels of barley to the acre, and 65 bushels of oats to the acre. Agricultural returns for a single year are not, perhaps, of great value but these figures show at least that the land is capable of an enormous yield. The yield of oats especially appears to be very large.

The returns issued by the Board of Agriculture show that in 1896 we imported from Holland 923 horses, 663,196 cwt. of dead meat, over 500,000 cwt. of butter and cheese, 861,887 cwt. of margarine, 217,891 cwt. of milk and condensed milk, 375,116 bushels of fresh fruit (apples, pears, cherries, plums, &c.), and 1,581,386 bushels of onions. In addition we imported from Holland 509,710 cwt. of grain and 40,127 tons of hay and no mention is made of the horticultural products in the form of "Dutch bulbs," &c., which we import in enormous quantities.

In the United Kingdom of Great Britain and Ireland there are, including waste lands, 77,672,000 acres supporting a population of 40,000,000, and in Holland there are (excluding lakes and rivers) 7,786,000 acres supporting 4,894,000, so that Holland supports a bigger population per acre than the United Kingdom. In the United Kingdom the area under cultivation (crops and grass) amounted to 47,868,553 acres in 1897 and this figure appears to be slightly decreasing. In Holland in 1895 the total area under crops and grass was 5,149,817 acres, showing an increase of 95,000 acres in the preceding three years. In the United Kingdom there are 1·2 acres of cultivated land per head of the population and in Holland there are 1·05 acres of cultivated land per head of the population. Statistics prove that Holland is a most fertile and productive country, but one requires to travel through it in order to be fully impressed with the extraordinary amount of produce which the Dutchman exacts from the soil. In Groningen and Friesland one cannot but be struck with the well-to-do look of the population. If there be wretchedness and squalor it is not visible to the traveller and must be, in any case, relatively small in amount. The people are well nourished and well clothed, the towns are handsome and clean, and the shops are excellent. Perhaps no better evidence of the high-level of comfort which pertains in this purely agricultural country can be given than the fact (which I take from "Baedeker's Guide") that the town of Leeuwarden with 31,000 inhabitants supports 25 firms of jewellers and silversmiths who are mainly engaged in making personal and household ornaments for the farmers and their families. Let it not be supposed that the Dutchman owes his position of agricultural supremacy to the "natural" fertility of the soil of his country. Doubtless he has found a large amount of well-watered pasture land ready to hand, but it is undeniable that some of the very best of his land has been won from the sea, the desert moorland, and the bog, by indomitable pluck and perseverance. Above all, the Dutchman is fully impressed with the necessity of returning to the soil everything that comes out of it. Nobody knows better how to facilitate that circulation of organic matter which is a law of Nature and he sees that his profit depends upon the completeness and rapidity of that circulation and that in farming as in other businesses a rapid turnover of capital is to be aimed at. In Holland everything which has manurial value is religiously returned to the land and we find that the population is increasing as fast as ours and that the land under cultivation is increasing although the area of land is less per head in Holland than in the United Kingdom. The level of public health is as high in Holland as in the United Kingdom and an enormous amount of farm, garden, and dairy produce is exported to this country where (albeit that many a tract of bog and waste moorland is waiting for the subjugation of civilisation) the land under cultivation is tending to decrease, where manurial wealth is being recklessly burnt or turned into the sea, and where one-half of the population is absolutely ignorant of the uses and value of dung and the other half is, if not ignorant, too squeamish to use it.

The municipal accounts of the city of Groningen for the year 1897 show that the total cost of keeping the city clean was 94,596 florins (12 florins = £1). The chief items of this expenditure were:—

	Florins.		Florins.
Salaries and wages	50,615	Disinfectants	263
Horse hire	21,441	Sundries	4,177
Repairs to carts	4,507	Clearing snow	11,281
Boat hire	1,500	Total	94,596
Brooms	812		

As a set-off against this expenditure the accounts show that the compost resulting from the stacking of ordure and refuse, which amounted to 1315 barge-loads, was sold for 58,075 florins, and the liquid manure which drained from the stacks and which is much valued by agriculturists was sold for 5339 florins. The total receipts from the sale of manure amounted, therefore, to 63,414 florins, which, deducted from 94,596, gives 31,182 florins (say £2600) as the net cost of cleaning Groningen. Taking the population of Groningen at 63,863, the cost of scavenging works out at something less than half a florin, or 10*d.*, per

head of the population. It will be noticed that of the total expenditure (exclusive of clearing snow) very nearly two-thirds go in wages, a great part of which is paid to the poorest class and must in some degree lessen the poor-rate. It appears that the permanent staff consists of 102 persons, of whom 56 with 28 horses and carts are engaged mainly in collecting ordure, and 20 people with 10 horses and carts in collecting ashes and refuse. For cleaning sewers, canals, gutters, and gratings 19 men are employed. The collection of ordure is done in the early morning before 10 A.M.

CARRINGTON MOSS.

This seems to be the place in which to allude to the spirited action of the city of Manchester which has reclaimed Carrington Moss and which is about to reclaim Chat Moss by fertilising the ground with the organic refuse of the city. The ground is a virgin peat which is admitted to be deadly to one at least of the supposed earth organisms. The experiment is a splendid one and will certainly be the precursor of similar action elsewhere. I have gathered some figures which may give an idea of the gigantic task with which the cleansing committee of the city have to grapple. From the report of the Cleansing Department of the city of Manchester for 1897 I find that 354,364 tons of refuse—very nearly 1000 tons a day—were disposed of. Stated in cartloads there were of street sweepings, 61,248; of "Bell dust," 9823; of rubbish, 97,658; and of night-soil, 240,781; total, 409,510. Of the material collected nearly one-third of the weight is lost by evaporation (in the preparation of concentrated manure), leakage, and drainage, and nearly 100,000 tons find their way to the rubbish tip, so that about 140,000 tons remain to be accounted for. Of this 49,342 tons were sent to Carrington Moss and over 57,000 tons were disposed of to farmers direct. Over 6000 tons of concentrated manure (made from 108,000 tons of "daysoil" or pail-closet contents) sold for more than £17,000. Nearly 19,000 tons were converted to mortar and were sold for £4500 and some 9000 tons of clinker were used for road-making. The net expenditure of the cleansing committee in 1897 amounted to £131,793 so that the 354,364 tons of refuse were dealt with at a cost of 7*s*. 5*d*. per ton. The total cost for the year of the Carrington estate (including rent and interest of capital) was £2482. The material sent to Carrington in 1897 consisted of 37,082 tons of nightsoil, 587 tons of sweepings and garbage, and 11,673 tons of cinders. The Carrington Moss estate, therefore, regarded merely as a dumping ground for garbage and refuse, must be a source of satisfaction to the Cleansing Department of the city of Manchester.

On August 11th, 1897, I visited Carrington Moss and had the advantage of being shown over it by Mr. McConnell, the bailiff. Carrington Moss was bought by the Manchester Corporation in 1886. It is 10 miles from the city, in close proximity to the famous Chat Moss from which it is separated by the Manchester Ship Canal which serves for the transit of material from Manchester. The estate, for which the corporation gave £38,000, has an extent of 1100 acres, of which 600 were wild moss commanding a rental of a shilling an acre for sporting rights. The corporation has spent £56,000 on light railways, roads, drainage, rolling-stock, buildings, &c., making the cost £94,000. (The outlay on the estate is given as £82,946 in the City Treasurer's Abstracts, 1897.) In the nine years 1889–97 491,686 tons of refuse material have been placed upon Carrington Moss, or very nearly 50 tons per acre per annum. The moss has been drained by a series of deep trenches with nearly vertical sides cut at regular intervals. The refuse as it arrives from Manchester is transmitted by means of a light railway to various part of the estate where for the most part it is placed in heaps and allowed to "ripen" before being placed upon the ground. These heaps soon cease to be in the least offensive. Nightsoil is frequently applied directly to the fields. At the time of my visit two barges estimated to contain 80 tons of refuse were unloading at the little wharf which has been especially constructed. The hay harvest was just over and the corn harvest was soon to commence. The crops one and all were in splendid condition. Oats, potatoes, carrots, wheat, and all the other usual farm crops appeared to be first-rate, quality excellent, quantity enormous. The roads were hard and firm having been brought to this condition by the application of clinker and other forms of hard material from the city. The farm is not quite a dead level but the inequalities of the surface are very slight so that from every point the spectator is able to survey an area of very considerable extent. Without previous knowledge there was nothing in the appearance of the farm (except the deep trenches) to indicate the character of the subsoil. All indications of bog had completely vanished. On reaching Mr. McConnell's house we walked out upon a pretty lawn surrounded by a flower-border brilliant with carnations and the ordinary garden plants. The lawn was firm and perfectly dry and I was not prepared for the demonstration which I was to have of the character of the subsoil. Taking an iron rod having a length of 11½ feet and a diameter of about half an inch Mr. McConnell with one hand drove it through the turf of his lawn completely up to the handle. I then did the same thing. As the rod passed through the first foot or so there was some resistance and a sense of grittiness was imparted to the hand, but this first obstruction passed the descent of the rod was progressively easier until it was finally stopped by the handle resting on the lawn. On withdrawing the rod the lower half was found to be wet while the upper part was dry. To the upper half clung a little grit and peaty earth, the lower half was clean but wet. It was then only that one recognised that this fertile paradise was literally floating.

Mr. McConnell informs me that Carrington Moss is everywhere about 12 feet in depth and that the variations in depth are very slight; whereas Chat Moss, although distant only a few miles, has a depth which varies from four to over 30 feet. On Chat Moss where the digging of drainage trenches was in progress I examined the peat which had been removed. These trenches are dug to a depth of about four feet to begin with. The peat near the surface had the ordinary fibrous character, whereas that from the bottom appeared to the naked eye to be smooth and structureless and saturated with moisture. It looked like brown jelly. The moss resembles a huge sponge. Mr. McConnell states that the surface of Carrington Moss is gradually sinking; that whereas when first he came to live on the estate he could, from a certain point see the spire only of a neighbouring church, he can now see the slates upon the roof. The sponge is being squeezed and drained, and rendered more compact. The half million tons of garbage which has been placed upon the surface must exercise considerable pressure and must serve to squeeze moisture into the deep trenches. Then, again, the upward drainage of the abundant crops is obviously very large indeed. The amount of moisture retained and evaporated by an acre of oats or mangel must be very great.

There are, as yet, not many trees upon the estate, but part of it, about 43 acres, is used as a nursery for the shrubs required for the parks and cemeteries of Manchester. These nurseries appeared to be most flourishing and contained a large variety of shrubs. The rhododendrons were extremely vigorous. Mr. McConnell assured me that the farm as a place of residence is by no means damp and that the rain which falls upon his lawn quickly drains away to the reservoir beneath and leaves the surface dry. He and his family and the employés on the farm have always enjoyed excellent health. There has been one case of enteric fever in nine years, the cause of which is doubtful.

Of the 1100 acres of land occupied, 372 acres are farmed by the committee, 639 acres are let to tenants, and the rest is occupied by roads, wharves, plantations, &c. The rental of the portion which is let amounts to £1516 19*s*., or about £2 7*s*. 6*d*. per acre, while the rent of the amount retained by the corporation is put in the accounts as £933 (i.e, £2 10*s*. per acre for the 372 acres farmed, or just £2 if the roads, &c., be included). In the year 1897 on the 372 acres farmed by the corporation there were produced: clover and clover hay, 430 tons; carrots, 250 tons; oats, 5500 bushels; potatoes, 2500 loads; swedes, 90 tons; mangolds, 90 tons; and straw, 200 tons. The value of this produce would appear in the accounts for 1898. In the year ended March 31st, 1897, the value of the farm produce amounted to £3632 or about £9 15*s*. per acre while the net profit on the farm appears to have been £1041 or £2 16*s*. per acre. The amount paid in wages was £1520 and the rent, as stated, was £933. If we may assume, as we have every right to assume, that the land rented was as productive as the land retained by the corporation, then the value of the produce of the 1011 acres under cultivation would, at £9 15*s*. per acre, amount to £9864 and we then arrive at the conclusion that each of the 49,342 tons of refuse sent to Carrington Moss in 1897 produced almost exactly 4*s*. worth of food. But now that the Moss is entirely reclaimed it will not take more than 30 tons of stuff to the acre, or, say, 30,000 tons per annum. Thus by a well-considered expenditure Manchester has provided itself with (*quâ* refuse) a destructor capable of dealing with about 100 tons per diem for ever and in its formation this machine has absorbed nearly half a million tons of refuse of which the city had of necessity to be rid at all costs. When the loans necessary for the purchase and development of this estate have been paid off it is certain that Carrington Moss Farm will cost the Manchester ratepayer nothing and will probably yield a return in crops of about 6*s*. 8*d*. for every ton of refuse used. Land which produced nothing and which let for 1*s*. per acre has been made to yield nearly £10 worth of produce and an eventual rental of £2 10*s*. per acre. This is a grand result and one of which Manchester may well be proud.

I am well aware that in farming, where results depend so largely upon the weather, it is hazardous to calculate returns on the yield of a single year, and that anything under a 10 years' average is likely to mislead. On the other hand, £10 worth of produce from an acre of land is no excessive return. My visit to Carrington Moss left upon me the impression that much of the land is ready to pass, as some has already done, from the hands of the farmer to that of the market gardener. In that case, when oats, grass, and carrots and mangels give place to fruit and high-class vegetables, it is certain that, with a market like Manchester at its door, the money value of the crops in Carrington Moss may be doubled or quadrupled. There is probably no city in the world where excreta are dealt with by methods other than water-carriage on so large a scale as they are dealt with in Manchester. In 1897 the city had an area of 12,911 acres; it contained 534,299 inhabitants living in 105,728 dwelling-houses or rather over five persons to a house. There were 76,913 pail-closets, presumably used by some 384 565 persons who provided 189,585 *tons* (nearly 425,000,000 lb.) of "pail contents." It would appear

from the Cleansing Committee's accounts (p. 36) that at the Holt Town Works 108,394 tons of "day soil" were converted into 6304 tons of concentrated manure, and that for the production of this manure were used 4897 tons of coal and coke and 1674 tons of chemicals. Adding the weight of the chemicals to the weight of the "day soil" we arrive at the fact that 110,068 tons of raw material and chemicals were reduced to 6304 tons by the aid of 4897 tons of coal. Or we may say that 6571 tons of fuel and chemicals produced 6304 tons of manure from 108,394 tons of raw material. The amount of water and other volatile matter driven off amounted to to 103,764 tons. The price paid for chemicals (£5098) and fuel (£675) amounted to £5773 while the net profit on the sale of manure amounted to £2081 (p. 15).

It is instructive to compare the Holt Town Works concentrated manure accounts (p. 14–15) with the Carrington Moss Farm accounts (p. 28–31). At the former a turnover of £30,533 resulted in a profit of £2081, or rather more than 6¾ per cent., while at the latter a turnover of £6202 resulted in a profit of £1041, or very nearly 17 per cent. Turning to the City Treasurer's Abstracts we find that whereas the Holt Town Works (p. 50), upon which the outlay has been £111,318, are now valued at £71,429, the Carrington Moss estate, upon which the outlay has been £82,946, is now valued at £118,617, so that while £39,889 of capital have been lost at Holt Town £35,671 have been made at Carrington.

CONCLUSIONS.

I have brought forward a considerable number of facts to prove that the dangers of applying dung to the soil are as nothing in comparison with the advantages—advantages which have been acknowledged from the dawn of historic time till now. It remains to say a few words on the financial side of the question. The great experiment at Manchester seems to prove conclusively that even in a huge city and with the heavy outlay which seems to be inseparable from all modern municipal undertakings a well-considered scheme of application of offal and ordure *in a dry state* to the soil is the most economic way of getting rid of it. I have shown how in Holland great cities may be kept spotlessly clean and in spite of obvious difficulties the public health be maintained by a well-devised system of scavenging. The cleanliness of Groningen is a thing which is scarcely realisable by one whose ideas of street sanitation are acquired in the West End of London, and the economy with which the scavenging is accomplished seems astounding to the London ratepayer. I have further shown that Holland with a smaller area of cultivated land in proportion to population than England is able to export to this country enormous quantities of farm and dairy produce and that while the English farmer can scarcely exist the Dutch agriculturist thrives and grows rich.

It will not be uninteresting, perhaps, if I give some of the financial results of my small experiment at Andover which is now in its fourteenth year of trial. In this experiment the ordure and house refuse of about 100 persons have been removed and applied *daily* for gardening purposes. The amount under the spade is now exactly one acre one rood and seven poles and I should like to say that the quantity of fæcal matter at the disposal of my gardener by no means satisfies him. I am also convinced that the garden might take with advantage at least double the quantity if not more. There is no evidence after a long experience that the soil is overdone. On the contrary, its "condition" has steadily improved. The produce of my garden has been sold on the principle of profit-sharing, so that the gardener is interested in extracting the greatest amount of produce from the soil. During the past year careful accounts have been kept, and I find that the produce fetched £71 19*s.* 6*d.*, which works out to £56 per acre. Of this sum £41 12*s.* 7*d.* were received for fruit and £30 6*s.* 11*d.* for vegetables. Some of the chief items were as follow:—Apples and pears, £18 0*s.* 6*d.*; summer fruit, £17 1*s.* 11*d.*; peaches (out-door), £3 19*s.* 2*d.*; potatoes, £6 3*s.* 4*d.*; cabbage and cauliflower, £5 18*s.* 3*d.*; tomatoes (out-door), £2 3*s.* 0*d.*; asparagus, £2 1*s.* 1*d.*; and flowers, £2 2*s.* 5*d.* The method of agriculture which I pursue is well known, but this has caused no prejudice against the garden produce, which finds a very ready market.

Except in the vacation I certainly do not visit Andover more than once a month. My experience leads me to say that it is to me almost inconceivable that the daily scavenging of our towns should not yield enough profit to pay the wages. It is especially to be noticed that the yield of this garden has undergone steady increase and I have every hope that such increase will continue. But it would be a great mistake to suppose that an acre of ground cultivated and manured as my garden is is going to yield £50 worth of produce per annum at once. The test of true gardening is *increase*. With the lapse of years and without appreciable cost the increase of fruit trees is automatic and the yield of seeds is equally automatic and prodigious. My garden has gradually become fully furnished and to a large extent with its own offspring, and in that fact lies part of the secret of its increasing yield. What we see in the London parks in the summer is not "gardening" but a beautiful display, after the manner of the bouquetiste, of the results of gardening elsewhere. In the same way the filling of flower beds with a crowd of named and fashionable plants bought for the season is not gardening but a mere evidence of wealth. The real gardener in these cases is the nurseryman.

The gradual increase in the yield of a plot of land, at least for a very long series of years, is limited only by the amount of skill and tillage which it receives and the amount of dung which is available for it. All evidence goes to show that organic manure in the form of dung is absolutely necessary for the maintenance of the fertility of the soil. We are gradually becoming alive to the fact that fertility is a biological question rather than a chemical question. To imagine that chemicals can ever replace dung is a pure delusion from which we shall some day be aroused. The success or failure of agriculture is very largely a question of dung and it must be admitted that the dung prospects in this country are very bad indeed. Imported animal food yields very little dung for the land because it is mostly washed (ultimately) into the sea, while steam-engines and motor cars and bicycles must mean a diminution of horse dung. The sanitary pioneers of half a century ago thought that the huge expenses of modern sanitation would be compensated by the yield from sewage farms. That has proved to be a delusion. Sewage has proved to be merely the happy hunting ground of sanitary tradesmen who have fattened on the ratepayer. The century closes with the spectacle of a Royal Commission still discussing the best way of *destroying* the potentialities of life and prosperity.

In these lectures I have brought forward many facts to show that there is no proof of any danger arising from the use of dung for agricultural purposes, while it is undeniable that the practice of agriculture is pre-eminently healthy and invigorating. I have been unable to find any evidence that contagia spread in the soil. To live in filth and to inhale the products of putrefaction given off from privies or pails of fæces or sodden ground results in disease, but there is no evidence whatever that disease thus generated is able to spread through the soil and infect a neighbouring house or street. Looked at in another way we must admit that filth disease like many other forms of disease is proportionate to overcrowding. We may pave the backyard and provide it with a trapped gully (not always sweet) and we may wash the fæces into a ventilated sewer which then delivers part of its vapours near our bedroom windows. It is a difficult problem and there are *pros* and *cons*.

While we exult (not always reasonably) in our diminished death-rate, let us not forget the diminished birth-rate, the multiplication of asylums of various kinds, and the steady increase in the amount of help from public funds which is necessary to maintain the health and decency of the masses. The year just ended has been unsurpassed in the volume of trade and in the bounty of the harvest, but the infant mortality in our towns for the Michaelmas quarter was the highest on record. Yes; there are *pros* and *cons*. At present he who advocates any attempt to entice a fair proportion of the people "back to the land" is regarded as a Utopian dreamer. I feel convinced that the only chance of getting a living from agriculture lies in the due enrichment of the soil. There is no chance of this so long as the only form of sanitation which receives any official encouragement is one which involves a systematic starvation of the soil. One sometimes comes across statements which would lead one to suppose that cultivated land is a public danger—statements which are mere assertions. Some of our sanitarians careless of food-supply, are liable to be dominated by ideas and to fix their attention unduly upon one side of a question and upon one disease. The more enthusiastic of them, if they can secure a trifling diminution in the mortality of one disease, seem quite ready to "make a solitude and call it peace."

ABSTRACT OF

The Arris and Gale Lectures

ON

THE ANATOMY AND SURGERY OF THE PERITONEAL FOSSÆ.

Delivered before the Royal College of Surgeons of England on Feb. 27th and March 1st and 3rd, 1899,

BY B. G. A. MOYNIHAN, M.B., M.S. LOND., F.R.C.S. ENG.,

ASSISTANT SURGEON TO THE LEEDS GENERAL INFIRMARY.

LECTURE III.[1]

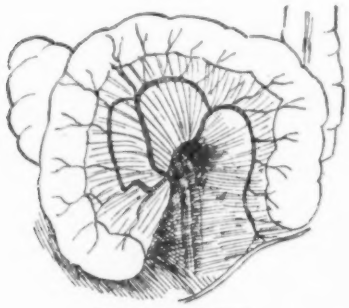
Delivered on March 3rd, 1899.

THE INTERSIGMOID FOSSA.

MR. PRESIDENT AND GENTLEMEN,—The first mention of the intersigmoid fossa is made by Hensing in the year 1742 in a Giessener dissertation. No subsequent reference to it is found until 1843. In this year Roser speaks of having seen the fossa very clearly defined on two occasions. In 1857 Engel describes a canal having a length of three centimetres in infants, extending along the inner border of the left psoas muscle to the level of the bifurcation of the aorta and in exceptional cases as far up as the pancreas. Treitz in 1857, Gruber in 1859, and Treves in his "Hunterian Lectures" give good descriptions of the fossa. The latter author says that "the perfect fossa was met with in 52 per cent. of all subjects. But if distinct funnel-shaped depressions be added to the examples of the true fossa then the percentage reaches 65." Jonnesco in 1890 and Brösike in 1892 give accurate accounts of the fossa.

On drawing the sigmoid or omega loop upwards the left or under layer of the sigmoid mesocolon is exposed. On this surface can be seen the entrance to the intersigmoid fossa at the line of insertion of the mesocolon (Fig. 8). The

FIG. 8.



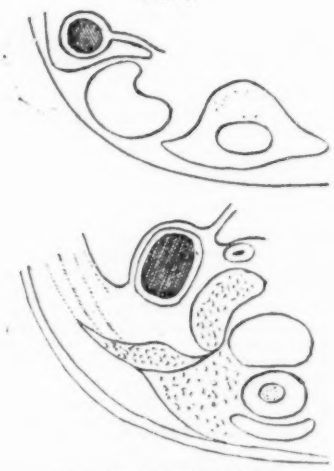
The intersigmoid fossa.

fossa is present in rather over 70 per cent. of bodies examined. Its frequency depends, however, chiefly upon the ages of the subjects. In the fœtus of later months and of infants it is invariable. Its frequency becomes less with increasing years. As Treitz showed many years ago, in the aged there are never lacking signs of adhesion, crimping, and thickening in the sigmoid mesocolon. Processes of this kind tend to obliterate the fossa, so that in subjects over 50 years of age the pouch is not infrequently wanting. The opening of the fossa is situated in the line of attachment of the sigmoid mesocolon at a point which is near the inner margin of the psoas. It lies over the common iliac artery close to, or in front of, its bifurcation. The orifice is generally round or oval and is bounded in front by a fairly well-defined sharp edge of peritoneum. In this edge, or very close to it, may be seen the sigmoid vessels. This orifice leads to the intersigmoid fossa which lies behind the sigmoid mesocolon and in front of the parietal peritoneum. The posterior wall of the fossa is adherent to the common iliac artery and through the transparent wall can be seen the ureter as it crosses the vessel. The apex of the fossa extends upwards for a distance that varies very considerably. Sometimes there is merely a dimple representing the fossa; in other cases the depth may be two or three inches or even more. I have on several occasions seen the fossa extend beyond the middle of the kidney and this is usually the case in the fœtus. Engel, Brösike, and Rogie describe the pouch as extending as far up as the body of the pancreas. Most frequently the fossa in the adult is of the shape and size of an abbreviated glove finger for an average middle finger.

GENESIS OF THE FOSSA.

Several explanations have been suggested by Treitz, Luschka, Waldeyer, Treves, and others which I believe to be incorrect. It was first shown by Toldt that the disappearance of the mesentery of the descending colon was due to a process of "physiological adhesion" taking place between the left (or posterior) layer of the mesocolon and the parietal peritoneum (Fig. 9). This agglutination begins

FIG. 9.



Formation of intersigmoid fossa.

above close to the splenic flexure and spreads gradually downwards. Over the kidney, owing to the projection of this organ, the fusion is earlier and more complete. Along the inner edge of the kidney is a groove and here, therefore, the opposing surfaces do not so readily come into contact and adhesion is delayed. At the lower part of the groove union is never complete and the gap that results is the intersigmoid fossa. On examining a fœtus of the seventh month or a little younger the descending mesocolon is obliterated. On pulling, even gently, on the colon, however, it will be found to strip up quite readily from the parietal peritoneum until the primitive mesocolon is reproduced.

HERNIA INTO THE INTERSIGMOID FOSSA.

Treitz refers to two cases of intersigmoid hernia, one recorded by De Haen and the other by Lawrence. The description and figures given by De Haen negative his case unconditionally. Lawrence, in the fifth edition of his work, says that hernia may occur in the mesentery of the sigmoid, but gives no case. A case which has been generally accepted is recorded by Jomini. I have elsewhere[2] analysed this case which is probably one of gross congenital abnormality with secondary adhesion processes. It cannot be allowed as

[1] Lectures I. and II. were published in THE LANCET of March 4th, 1899.

[2] On Retro-peritoneal Hernia. London: Baillière, Tindall, and Cox 1899.

a hernia of this class. The only two authentic cases, so far as I am aware, are recorded—the first by Mr. F. S. Eve and the second by Mr. McAdam Eccles. Mr. Eve's case was described and figured in the *British Medical Journal* of June, 1885, and I must refer the reader to this article for full particulars. In that case the most likely explanation of the history seems to me to be this. There had been originally a common mesentery for the jejunum, ileum, cæcum, and ascending colon. The splenic flexure and the descending colon became fixed in the usual manner by adhesion of the left or posterior layer of the original descending mesocolon to the parietal peritoneum of the posterior abdominal wall. As a result of peritoneal adhesion, most probably pathological, the cæcum and ascending colon had adhered to the descending colon and the sigmoid and the united gut had been dragged over to the right, laying bare and rendering patent the orifice of the inter-sigmoid fossa.

Mr. McAdam Eccles's case occurred in 1895. I am indebted to him for a reprint of his account in the "St. Bartholomew's Hospital Reports." The symptoms were those of acute intestinal obstruction. On opening the abdomen "a tightly constricting edge which afterwards proved to be the margin of the aperture of the inter-sigmoid fossa" was revealed. A loop of gut four inches in length was nipped in the fossa and about half an inch of it was gangrenous. The loop was removed and the ends were stitched by Maunsell's method. The patient died from exhaustion. At the post-mortem examination there were signs of "some general peritonitis, most marked in the region of the sigmoid flexure, which was itself thrown over to the right side of the body."

These two cases illustrate as well as possible two quite opposite conditions. In the one there was congenital abnormality, gross in extent, and peritoneal adhesion, probably pathological and extra-uterine, and in the other a peritoneal cavity in all respects normal.

HERNIA INTO THE FORAMEN OF WINSLOW.

This form of hernia is very uncommon. I have been able to find only eight cases recorded, four very imperfectly by Rokitansky, Treitz, Moir, and Novello, and four more fully by Blandin, Majoli, Elliot-Square, and Treves. After reading carefully the reports of these cases it seems to me almost certain that in order to permit of the occurrence of this form of hernia there must be some extreme congenital abnormality. Thus in Treitz's case there was "a common mesentery for the intestine from the duodenum to the rectum." In the cases recorded by Elliot-Square and Treves there was an absence of the secondary fusion process between the ascending colon and the posterior abdominal wall. The causes leading to the formation of this form of hernia are probably: (1) a common mesentery for the whole intestine (Rogie has collected 53 examples of this and he has not included all the cases); (2) absence of the secondary fusion of the ascending colon to the posterior abdominal wall; (3) abnormally large size of the foramen of Winslow; and (4) abnormal length of mesentery and consequently undue mobility of the intestine. In the absence of one or other of these abnormalities the occurrence of the hernia may be considered almost a physical impossibility.

SYMPTOMS.

On analysing the series of cases it seems that a hernia into the foramen of Winslow on becoming strangulated presents a fairly well-defined group of symptoms. These are: 1. Pain. This is generally epigastric. Elliot-Square speaks of "pain over the ensiform cartilage and immediately below it"; Treves of "pain like cramp at and above the umbilicus"; and Majoli of "a painful rounded tumour" in the epigastrium. 2. Tumour. An epigastric tumour has usually been observed. Thus Majoli says that "a persistent bulging of the anterior abdominal wall in the epigastric region" was present. Treves speaks of "a conspicuous bulging of the anterior abdominal wall in the epigastric and hypochondriac regions." Elliot-Square says that "the umbilicus was somewhat prominent." 3. Percussion. A tumour when present is dull on light percussion, but deep percussion sounds a more resonant note. It is interesting to note that there are no recorded symptoms of pressure on the hepatic artery, portal vein, or bile duct.

X RAYS: IMPROVEMENTS IN APPARATUS.

BY JOHN MACINTYRE, M.B. GLASG., F.R.S. EDIN.

WORKERS in the x ray department have long felt that improvement in the interrupters of coils was necessary before any great advance could be made. That many have attempted this is known, but it will surprise some to learn that the well-known firm of Apps have designed and constructed some hundreds of different forms on their own behalf and that of others. In a paper published by me in the *Archives of Roentgen Rays* attention was drawn to the more important forms and the principles involved, but I concluded by stating that a perfect interrupter had not yet been made. It is with great pleasure therefore that I call the attention of the readers of THE LANCET to an important discovery described by Dr. Wehnelt of Charlottenburg in the *Elektrotechnische Zeitschrift* of Jan. 22nd, 1899, and add that English readers are indebted to the editors of the *Electrical Review* of Feb. 17th of this year for an excellent article on the subject. The principle involved is described as follows: "If a current be sent by means of two electrodes of unequal surface through an electrolyte, the electromotive force applied being considerably greater than the counter electro-motive force of polarisation, well-known light and heat phenomena may be observed on the electrode with the smaller surface. The latter is called the active electrode." Planté and others have observed and worked at this subject long ago, but Dr. Wehnelt has investigated the question as to whether there is a complete interruption or merely a reduction of the intensity. His conclusions have led him to utilise this chemical interrupter with marvellous results. From the description given I have had an instrument constructed. It consists simply of a glass beaker six inches high and four in diameter containing diluted sulphuric acid 25° B. In this is placed a sheet of lead measuring six inches by four inches. The other electrode is simply a thin piece of platinum wire measuring a few millimetres in length fused into the bottom of a glass tube. This tube can be filled with mercury to make contact, or a piece of copper wire may be attached to the end of the platinum which projects into the test tube. The object of the tube is to sink the platinum sufficiently into the fluid to prevent spluttering. I have used the current from the mains with the 100 volt circuit and the current from the positive wire goes to the platinum electrode. The moment the current is turned on it is noted that the meter registers something between five and 10 ampères when using an 18 inch Newton's coil; also that an arc of a most extraordinary description passes between the discharge rods of the coil, and that this arc seems to be composed of a torrent of sparks practically continuous although the length is diminished about from 10 to 12 per cent. The noise made is quite unlike that of any other interrupter and indicates a very high frequency. It is said in some instances to amount to 1500 per second.

It is premature to speak of the modifications, but it is quite evident that we are able by this extraordinary interrupter to vary the frequency of the break, and it may be noted in passing that as the break increases the voltage increases, hence the coil is protected. The amount of the current can also be varied by differing the proportions of the size between the platinum and lead electrodes.[1] One of the great difficulties in working coils in the past has been to obtain sufficient frequency to give a continuous light on the screen and rapid exposures, as it was found that when the interruptions passed from 1500 to 2000 per minute fluorescence could no longer be obtained. With the new arrangement, however, flickering on the screen is entirely done away with and certainly the results obtained in this direction by me have been as good as those previously seen with the Wimsburst machine. Not the least important advantage obtained is cheapness, and from what I have already seen I should say that we are nearer the complete utilisation of the induction coil than at any previous date. It would appear that smaller coils will now be capable of demonstrating and photographing structures hitherto beyond their range. It may be added that the difficulty of moving parts employed in many other interrupters has been entirely removed. Further it may be

[1] So complete is the break that the condenser is rendered superfluous.

safely anticipated that important advances by way of still more rapid exposures of photographic plates and better observations on the screen will be the result. There is one point, however, which may be of interest to those employing this new apparatus for medical purposes—viz., the effects upon the skin and other tissues. For some time I have been observing the different effects upon tissues when subjected to Crookes's tubes excited by the coil or Wimshurst machines, the result of which I hope to lay before your readers in a future note.

Since writing the above note I have had some further opportunities of testing the value of this latest improvement in x ray technique and confirm all that has been claimed for it. I have photographed the deep-seated structures of the chest, using an 18 inch Apps-Newton coil and Wehnelt's contact-breaker with the most striking reduction in times of exposure, while the brilliancy and steadiness of the fluorescent screen are quite beyond anything I have ever witnessed with Crookes's tube excited with the coil. In more than one quarter questions of disadvantages have been raised, such as the destruction of tubes by fusion of the antikathodes, &c. With a view to testing these I have made a series of experiments with the following results: (1) the effects in the tube can be varied by increasing or decreasing the voltage to the primary coil; (2) the current can be altered by difference in size and number of the active electrodes; and (3) the electrolyte affects the result and the distance also between the two electrodes in the cell has an influence. All these modifications can be demonstrated by the registration on the meters, effects on length, thickness, frequency of the sparks, brilliancy and steadiness in the illumination of the fluorescent screen, and lastly difference in times of exposure when photographing. I have used different sized coils, one giving 28 inches spark, and found the principles hold throughout. These results show that the new instrument can be thoroughly controlled and even with the largest coils the smallest tubes can be efficiently and safely excited.

Glasgow.

CASE OF POST-PARTUM ECLAMPSIA WITH RECOVERY.

BY JOHN BRUNTON, M.B., CH.B. GLASG.

ECLAMPSIA is a tolerably rare complication of obstetric practice, and fortunately so, for it has been placed on a par with accidental hæmorrhage in fatality. Leishman stated that it occurred once in every 450 labours and Lusk says once in every 500. According to Morris and Dickinson the frequency, as reported in the Philadelphia Board of Health returns, varied from one in 170 to one in 496 in different years, and from statistics of Goldberg the eclampsia occurs in the three periods of (1) pregnancy, (2) during labour, and (3) after labour, in the following order of frequency: 21·07 per cent., 56·34 per cent., and 22·59 per cent., but this latter figure they consider to be much overstated. On consulting the leading English text-books I find that Leishman and Lusk merely state that the fits may occur subsequently to delivery and their remarks under the heading "Eclampsia" are devoted almost entirely to those occurring in pregnancy. Sir James Y. Simpson in his obstetrical works reports one case after labour and in the Transactions of the Obstetrical Society of London Dr. Herman has reported 12 cases, of which nine occurred prior to labour, two during labour, and one after labour. The following case of eclampsia taking place some hours subsequently to delivery may therefore be considered of some rarity.

On Nov. 26th, 1898, at 3 A.M., I was called to the confinement of a primipara, aged 22 years, whom I delivered with the aid of forceps. The placenta was expelled by Créde's method with comparatively little difficulty and the patient was left apparently in a normal and comfortable condition. At 4 P.M. on the same day (the 26th) I visited her and found everything most satisfactory and the same might be said of a visit at 12 noon on the 27th, except that the patient complained of severe frontal headache and that I found widely dilated pupils and a pulse of only 40 which puzzled me and which I attributed to nervous prostration. I prescribed stimulants. On returning home at 2 P.M. after finishing my visits I found an urgent message to say that the patient had had a fit. I at once hurried away to her and found that the fit had occurred within five minutes of my leaving her and that a subsequent one had occurred an hour later. From the description given by the nurse they had been quite characteristic of the fits of eclampsia with tonic and clonic convulsions. The patient had bitten her tongue and lips and had with difficulty been kept on the bed. I found her lying flat on her back in bed with a pale face and a dazed, bewildered expression. The pulse was normal in rate, the pupils were only moderately dilated, and the patient was semi-blind and deaf. I prescribed warmth, milk diet, and a mixture containing tincture of digitalis, bromide of potassium, chloral hydrate, and nitrate of potash. At 9 P.M. she was found to be in much the same condition and it was discovered that the legs pitted on pressure. Between that hour and 9 A.M. on the next day (the 28th) she had six more fits, one of which lasted one and a half hours. As she passed her urine in bed during the fits it was not possible to collect any till Monday night (the 28th). This was found to be of high specific gravity, in appearance like pea-soup, very acid, depositing a large quantity of urates, and it was highly albuminous. Subsequently to this no fits occurred, and the patient on the morning of the 29th seemed to be on the way to recovery. She looked exhausted but was able to answer questions. The tongue, mouth, and lips were hard, dry, and caked, and the breath was very foul. On that evening I changed the prescription to tincture of perchloride of iron, tincture of digitalis, and solution of acetate of ammonia on the suggestion of my father. On the 30th the patient showed still greater improvement, and on Dec. 1st, at 2 P.M., a marked change for the better had set in and she complained of no pain whatever and no headache. The tongue and mouth were cleaner and the breath was more tolerable but she had passed no urine since the previous night. I directed hot cloths to be applied to the loins, and by the same night she had passed a large quantity of urine clearer than before but still highly albuminous and acid. The nurse stated that she wandered in her mind, and got up out of bed if left alone for only a few minutes. On Dec. 2nd, the patient seemed in a condition more normal to the puerperium. She was, however, dazed in expression, dull of hearing, and hesitating in her speech. Also there was considerable amnesia. A fortnight later the patient was up and dressed and looking very well, but on questioning the nurse I found that there was still the loss of memory. It seemed that the storm which had passed over her had entirely obliterated from her mind all events occurring within a month of her confinement until a day or two after the last fit. For instance, she remembered nothing whatever of her own confinement or of that of her sister which had taken place three weeks before or of the purchase of a jacket on Nov. 25th. She knew all her friends, however, and she seemed to have a normal remembrance of events which had taken place up till a month before. At this time (Dec. 15th) the urine showed no abnormality. Three weeks ago, when I last saw the patient, there was no improvement in the memory. On inquiring into her previous health it was discovered that during her pregnancy she had suffered from swollen feet and that her eyelids had been puffy in the morning. That the fits originated in the kidneys is evident from the suppression of urine, from the highly concentrated and albuminous state of any that was passed, and also from the fact that once the flow was re-established the eclampsia ceased. The foul condition of the lips, tongue, breath, stools, urine, and, on one occasion only, the lochia, suggest uræmia.

Endsleigh-street, W.C.

NOTE ON THE FLAGELLA OF MICROCOCCUS MELITENSIS AND BACILLUS PESTIS.

BY MERVYN H. GORDON, M.A., M.B., B.CH. OXON.

MICROCOCCUS Melitensis, first described by Bruce[1] in 1887, is now generally accepted as the specific cause of Malta fever. A culture of this organism was kindly forwarded to me at my request by Dr. Horrocks of Netley. As he pointed out when forwarding the culture, the organism is in reality a small bacillus. I have nothing to add to the descriptions of the cultural characters given by several observers, including Durham,[2] recently. In accordance with the latter I find that

[1] The Practitioner, vol. xxxiv., p. 131.
[2] Journal of Pathology, December, 1898.

Fig. 1.

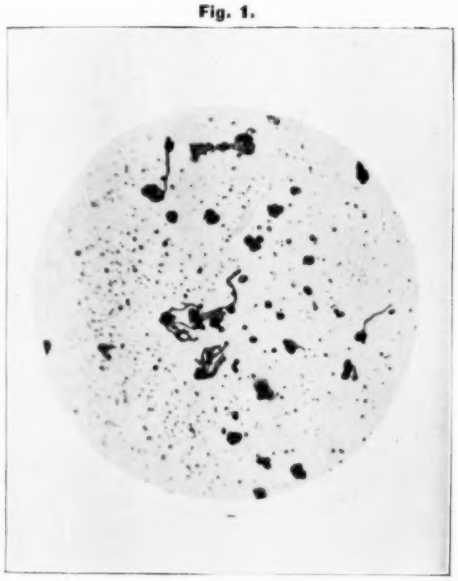


Fig. 2.

Fig. 3.

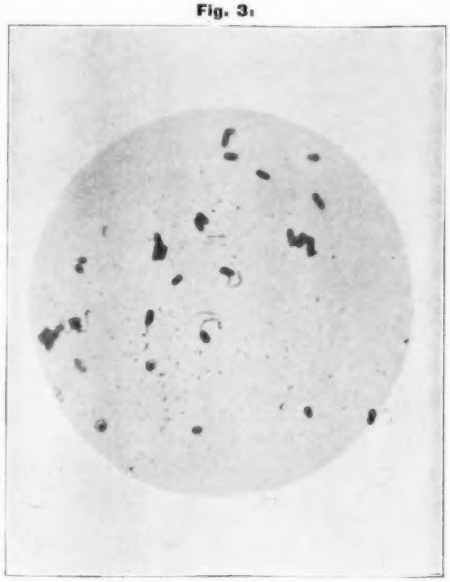


Fig. 4.

TO ILLUSTRATE DR. MERVYN H. GORDON'S ARTICLE ON THE FLAGELLA OF MICROCOCCUS MELITENSIS AND BACILLUS PESTIS.

a distinct alkaline reaction is produced in litmus-tinted media by the third day. In spite of the assertions of several observers, including Durham, to the contrary, I am convinced that this organism possesses the power of voluntary movement. The motility which may be seen in a broth emulsion from a young gelatin or agar culture is distinct from Brownian movement. Moreover, by subjecting the organism to flagella-staining, either by Pitfield's or by Van Ermengen's method, I have succeeded in proving the presence of flagella. In successful preparations it will be found that the majority possess one terminal flagellum; several have two, one at either end or two at one end; a few have three; and rarely four may be counted on a single microbe. The micro-photographs (Figs. 1 and 2) show specimens with flagella, including one with four.

In view of these results I would suggest that micrococcus Melitensis is allied to the alkali-producing type of bacillus coli which I have described.[3]

In the *Centralblatt für Bakteriologie*, Band No. 22, 1897, I noted that bacillus pestis was possessed of one terminal flagellum, sometimes two, and also that the motion displayed by this organism was distinct from Brownian movement. Since then I have on one occasion seen two plague bacilli move right across the field of the microscope and then change their direction.

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Public Health Laboratory, St. Bartholomew's Hospital, E.C.

[3] Ibid., June, 1897.

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Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

REPLACEMENT OF A SEVERED PORTION OF THE NOSE.

BY W. M. ABBOT-ANDERSON, M.B., B.S. DUNELM, M.R.C.S. ENG.

THE patient was a man, aged 30 years, who had injured himself with a knife used for cutting sandwiches whilst he was in the act of sharpening it on a steel. In so doing he struck his nose over the nasal bones and the knife glancing off these cut through the skin and shaved off a piece of the integument measuring one and a quarter inches from above downwards. The breadth of the base of the triangle was half an inch, the apex being over the nasal bones where the knife struck. Immediately after the accident, finding his nose bleeding, he ran to a druggist who sent him on to me. He was not aware at this time of the fact that he had cut off part of his nose and he waited with the page boy in my waiting-room for fully 15 minutes. I [illegible] the injury and asked the patient if [illegible] the piece. He was not sure, but on the [illegible] boy was sent back to see if he could find [illegible] he returned with the missing portion [illegible] found on the kitchen table. The [illegible] there, but he took it for a piece of [illegible] was brought to me wrapped in a [illegible] per. During the boy's absence I [illegible] surface with a one in 2000 [illegible] piece of nose was thoroughly [illegible] solution of boric acid and it was [illegible] tures. From the time it was cut [illegible] applied was fully 35 minutes and [illegible] it was thoroughly blanched. For [illegible] sutures were placed in position [illegible] minutes or so a fresh hot com- [illegible] wrung out in boric solution and [illegible] tribute the success of the small but [illegible] riment. When the patient was leaving my [illegible] rooms I dressed his nose as follows: (1) powdered europhen; (2) a piece of green protective; (3) wet boric lint wrung out in boric solution; (4) dry boric lint; (5) double cyanide wool; (6) gonorrhœa bag to act as a muff; and (7) bandage. The wound united by first intention all round and the stitches were removed on the fourth day and subsequently for ten days the patient wore some slight protection to keep the part warm.

Wimpole-street, W.

BRADYCARDIA IN INFLUENZA.

BY HEINRICH OPPENHEIMER, M.D. HEIDELB., M.R.C.P. LOND.

THE causes of an abnormally infrequent pulse, as usually given in the text-books, are aortic stenosis, fatty heart, jaundice, and meningitis. It is not so well known that it is characteristic of some influenza epidemics, yet an extreme slowing of the pulse is by no means rare in quite uncomplicated cases. I observed a marked pulsus rarus in many cases of influenza which have come under my notice during the present year, and in three of my patients it formed so prominent a symptom that I feel justified in publishing their history.

CASE 1.—The patient was a man about 24 years of age who on Jan. 24th fell suddenly ill with severe headache, pains in the back and limbs, general malaise, anorexia, and laryngeal cough. When first seen his temperature was 101·2° F. and his pulse was 72. The relative infrequency of the pulse—i.e., its failing to be accelerated in proportion to the rise of temperature—struck me as peculiar. A cachet containing four grains of bromide of quinine and eight grains of salophen to be taken twice a day was prescribed. On the next morning the temperature was 97° and the pulse was 58, the cough was much better, the headache had

a distinct alkaline reaction is produced in litmus-tinted media by the third day. In spite of the assertions of several observers, including Durham, to the contrary, I am convinced that this organism possesses the power of voluntary movement. The motility which may be seen in a broth emulsion from a young gelatin or agar culture is distinct from Brownian movement. Moreover, by subjecting the organism to flagella-staining, either by Pitfield's or by Van Ermengen's method, I have succeeded in proving the presence of flagella. In successful preparations it will be found that the majority possess one terminal flagellum; several have two, one at either end or two at one end; a few have three; and rarely four may be counted on a single microbe. The micro-photographs (Figs. 1 and 2) show specimens with flagella, including one with four.

In view of these results I would suggest that micrococcus Melitensis is allied to the alkali-producing type of bacillus coli which I have described.[3]

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The culture which I have been using was kindly given to me by Dr. Klein. It came originally from a fatal case of bubonic plague. Dr. Klein[4] has fully described this organism both with regard to its morphological and pathogenic characteristics. As regards flagella it is commonest to find one terminal flagellum. This is sometimes long and wavy, at others short and straighter (vide Figs. 3 and 4). Organisms showing two flagella are sometimes seen, in which case either there are two at one end or one at both ends. The most I have yet counted on a single organism is three, and this is uncommon.

It is by no means easy to obtain flagella specimens of either plague or Malta fever. Several unsuccessful trials are as a rule necessary. The method which I have found most trustworthy is Van Ermengen's with the following modifications: (1) the reducing agent—i.e., the tannin and gallic acid solution—must be several weeks old and (2) specimens should be left for double the prescribed time in the mordant, for from one and a half to three minutes in the first silver solution, from two to three minutes in the reducing agent, and in the last silver solution until the *film* begins to darken. Sometimes good preparations are obtained by washing in distilled water between the baths. Again, it is sometimes advisable to reverse the order of the baths. I may add that it is unnecessary to boil the cover-glasses in the bichromate solution. Strong heating on a metal tray which is moved about over a blowpipe flame is quite sufficient, provided that the cover-classes have been wiped absolutely clean with a handkerchief. I have to thank Mr. A. Norman for taking the micro-photographs.

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subsided and the pains "all over the body" were somewhat relieved; but there was constipation (for which some simple saline aperient was given), complete loss of appetite, flatulence, and a bad taste in the mouth. On the 26th the temperature was very slightly subnormal and the pulse was 48; the gastric symptoms were as well marked as on the previous day. As the patient was subject to repeated attacks of double otorrhœa and as a severe headache had recurred I thought for the moment that some meningeal mischief might be impending, but the absence of other more pronounced signs and symptoms soon dispelled my apprehension and made me inclined to think that jaundice might develop, the more so since the skin and conjunctivæ showed a slight yellowish tint, but the tests for biliary pigment in the urine gave a negative result. I discontinued the cachets and prescribed small doses of quinine in an acid vehicle. The condition remained much the same for the next two days, but on the 29th the patient felt so well that he got up in opposition to my advice. This was followed by a further decline in the pulse-rate from 45 to 40. I sent him back to bed, but it was not until after the lapse of five days that the pulse rallied though stimulants had been freely given. There was a feeling of profound prostration which did not subside until the pulse was 56 or 58. The patient was kept in bed till Feb. 5th and he has recovered since though there is still some general weakness left.

CASE 2.—The patient was a woman, aged 27 years, who had never been ill before. On Jan. 28th she fell ill with shivering, violent vomiting, headache, pains in the back and limbs, and pains in the stomach, soon followed by severe diarrhœa. The temperature was 97·4° F. and the pulse was 56. On the 29th the prostration was so well marked that she fainted when sittting up in bed. The temperature was 98° and the pulse was 48. On the morning of the 30th her condition was the same, but there were now constipation, flatulence, furred tongue, a very bad taste in the mouth, and pains behind the eyes. Under the free use of stimulants she made a rapid recovery so that she was able to leave her bed on Feb. 3rd. The pulse showed a marked reaction, 82 being counted at the wrist.

CASE 3.—The patient was a woman, aged 48 years, who, though subject to gout, was otherwise healthy. She first sent for me on Jan. 31st when I found her very prostrate, with pains all over the body, anorexia, a furred tongue, dry lips, constipation, flatulence, and cough. The temperature was 99° F. and the pulse was 80. On Feb. 1st, the bowels having been relieved, she felt somewhat better though she was extremely weak. The heart was beating at the rate of 60 per minute and the temperature was 97°. During the following days the pulse rate was gradually reduced to 45, while the temperature was subnormal, varying between 96° and 97·2°. Champagne was ordered in large doses and brandy was given at regular intervals. On the 5th the pulse showed some improvement and on the 8th the patient was able to leave her bed, the pulse-rate being 68 and only some weakness remaining.

I may add that in these three cases, as well as in several others in which there was marked bradycardia, though not so extreme as in those described, all the organs were healthy and there was not the least sign of heart disease. In my experience the pulsus rarus is most pronounced in those cases where there is influenza of the gastro-intestinal type. Of course, bradycardia is frequently observed in states of exhaustion, particularly during convalescence from acute fevers. But in influenza bradycardia is not only met with during convalescence from a severe attack but as an essential sign on the height of the paroxysm. It is usually accompanied by a subnormal temperature, though there is no necessary relation between the range of temperature and the pulse-rate. But in the absence of all other signs there is very marked prostration inversely proportionate to the frequency of the heart-beats. I do not think that the slowing of the pulse is the outcome of the general weakness or *vice versâ*, but that both bradycardia and constitutional exhaustion are the result of the same cause—the poisoning of the system with the products of influenza or of the influenza germs, for I have not the least doubt that the pulsus rarus is due to the immediate action on the pneumogastric nerve or on the ganglia of the heart by the influenza toxins and bearing this in mind it is imperative to keep the patient in the recumbent position, though all other indications of the disease have disappeared, until the pulse has rallied in order to give the heart the highest possible degree of physiological rest.

Swiss Cottage, N.W

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas ea morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. MARYLEBONE INFIRMARY, NOTTING-HILL, W.

TWO CASES OF IDIOPATHIC DILATATION OF THE COLON.

(Under the care of Mr. JOHN R. LUNN.)

THAT there are cases in which portions of the large intestine are found enormously distended and yet no source of obstruction is discoverable is now generally admitted, but the true cause of this curious condition is doubtful. It is often attributed to chronic constipation which is always found in these cases, but the constipation is in all probability the result and not the cause of the dilatation. The nervous theory is the most inviting. One curious point is that the dilatation is sometimes limited to a part of the colon and does not involve the whole of the large intestine. The fact that the muscular walls are in some cases at least distinctly hypertrophied indicates that there has been increased pressure in the bowel, but the true significance of this fact is not clear. For the notes of the cases we are indebted to Dr. H. Sinigar, assistant medical officer.

CASE 1.—A woman, aged 86 years, was admitted into St. Marylebone Infirmary in October, 1897, for bronchitis, but she was found to be also suffering from marked abdominal distension. She was a well-nourished woman who, owing partly to the bronchitis and partly to the abdominal distension, had to be propped up in bed. She gave a history of simple constipation with no attacks of diarrhœa and no loss of blood from the bowel. There was enormous distension of the abdomen which was tympanitic all over and not tender. Peristaltic action of distended coils of gut could be distinctly seen through the abdominal walls; no tumour was felt in the abdomen. Rectal examination revealed ballooning of the rectum, absence of rectal stricture or growth, and the presence of an enlarged, hard, and globular uterus of about the size of a fist. She had considerable bronchitis, the heart's apex beat was displaced outwards, and there was an apical systolic murmur. The liver and spleen were not enlarged. The constipation was successfully treated by enemata and castor oil. Charcoal was given by the mouth with the view of lessening the distension, but without any beneficial effect. She remained in the same condition for some months, complaining at times of abdominal pain which always appeared to be due to a temporary increase of the distension. She died from bronchitis and heart failure in March, 1898.

Necropsy.—On opening the abdomen at the post-mortem examination the distended coils were seen to consist of large intestine only, the small gut lying hidden behind. The distension began at the cæcum and included the whole length of the colon and rectum. The transverse colon was much increased in length and was tortuous. No growth, stricture, or compression of any part of the intestinal tract could be discovered. The mucous membrane appeared to the naked eye to be normal everywhere and the muscular coats were only slightly thickened. There were no scybala in the colon or rectum nor was there any evidence in the gut of previous fæcal impaction. The circumference of the distended colon was about 15 inches. The uterus was retroverted and contained a calcified fibroid, but this was not so large as to fill up the pelvis. There were no marked changes in the other viscera.

CASE 2.—A woman, aged 66 years, was admitted into St. Marylebone Infirmary for obstruction of the bowels on Oct. 11th, 1898. She was very emaciated, with an anxious expression, sunken eyes, dirty complexion, and sordes on the lips and tongue. The history obtained from her husband was that she had been fairly healthy until six years before admission. Then she began to be troubled with flatulence

and obstinate constipation. She had for many years been in the habit of taking aperients regularly. She had been gradually losing flesh for five years, during which time the abdomen became more and more distended. She had never passed any blood from the bowel. Vomiting began a fortnight before admission. On admission the abdomen was greatly distended and tympanitic all over; no tumour was felt. She vomited frequently, the vomit consisting of an offensive dark-brown fluid. The rectum was ballooned and was full of soft semi-liquid fæces; no stricture or growth was discovered. There had been no action of the bowels for a week, so a large enema was given at once, but was retained. Another enema which was given a few hours later was also retained. Vomiting continued and soon became feculent, her general condition at the same time getting steadily worse. As soon as the patient's friends could be seen it was decided to open the colon for drainage purposes. The operation was begun 36 hours after admission and as the patient was very feeble it was performed on the bed. A 5 per cent. solution of eucaine was injected and a small incision was made in the left iliac fossa. Large intestine at once presented in the wound, but owing to the enormous distension no attempt was made to pull out a loop of gut and thus the actual condition found post mortem was not realised at the time of the operation. The presenting gut was stitched to the abdominal wound and opened four hours later. Large quantities of flatus escaped and the abdomen soon became flaccid, but very little fæcal matter was discharged. There was no shock from the operation; the patient died 26 hours later.

Necropsy.—At the post-mortem examination a most remarkable condition presented itself on opening the abdomen. Rising up from the pelvis for 13 inches above the symphysis pubis was a greatly dilated rectum which occupied the whole of the front of the abdomen. The only other part of bowel visible was the sigmoid flexure which had been opened at the operation. The rest of the large intestine and the whole of the small intestine were hidden behind the dilated rectum. The first part of the sigmoid flexure was only moderately distended and the lower part was both distended and lengthened; from the brim of the pelvis it turned sharply upwards and passing in front of the descending colon it reached as high as the splenic flexure of the colon; then it was again turned sharply on itself and at that level became continuous with the rectum. The gradual broadening of the longitudinal muscular bands of the sigmoid flexure until they formed a complete coat of longitudinal muscular fibres in the rectum was remarkably well seen; at the lowest part of the sigmoid flexure these bands attained a width of one and a half inches, and even then were quite distinct from each other. The arrangement of the longitudinal muscular fibres as a complete outer covering, and not as three separate bands, showed that the dilated gut was rectum and not sigmoid flexure. Although quite flaccid the circumference of the rectum at the level of the umbilicus was 26 inches. Its muscular walls were hypertrophied; the longitudinal fibres on the anterior surface were especially well marked. The rectum contained a very large quantity of semi-liquid fæces and appeared to be capable of holding as much as a domestic bucket. No scybala were present. The mucous coat was somewhat thickened; there was no ulceration of its surface.

Remarks by Dr. SINIGAR.—These two cases are examples of so-called idiopathic dilatation of the colon occurring, as Treves[1] points out, independently of mechanical obstruction in adults, thus differing from dilatation of the colon in children which he believes to be due to some congenital defect in the lower gut. As regards the causation of this rare condition Hale White[2] points out that chronic constipation is probably not in itself a sufficient explanation; if it were so one would expect to find the condition more commonly in women, whereas 11 out of 12 cases reported have occurred in men. He is inclined to regard the condition as analogous to non-obstructive dilatation of the stomach. Case 2 reported above certainly seems to me to support his view. In this case the dilated rectum descended practically in a straight line from the diaphragm to the anus and kinking of the sigmoid or rectum, which was suggested as a cause in some of the published cases, could not possibly have occurred as the rectum almost entirely filled the abdomen. It is, of course, possible that excessive action of the sphincter may have caused difficulty in the expulsion of the rectal contents, but it is worthy of note that in neither case did the examining finger meet with any resistance at the anus. Then, again, the descending colon was of normal calibre and the transverse and ascending colon were actually rather less than the normal size—a fact difficult to understand if the kinking view be accepted. The analogy to dilatation of the stomach is further strengthened by the marked impairment of the absorptive power of the colon, as in both cases the fæces were semi-liquid. On the whole it seems to me that some anomaly of the innervation of the affected gut is a not unreasonable explanation of the condition. In Case 1 the chief trouble was bronchitic and as an action of the bowels could always be caused by enemata or aperients and as the case was diagnosed as one of idiopathic dilatation of the colon it was not considered advisable to resort to any operative measures. Case 2 presented an entirely different clinical picture. The symptoms were obstructive and urgent and were regarded as due to malignant disease. Colotomy, however, gave no relief since the opening in the bowel was entirely above the collection of fæces in the rectum. The great capacity of the rectum easily explained the inefficacy of the enemata. I am indebted to Mr. Lunn, medical superintendent of the infirmary, for permission to publish these cases.

[1] THE LANCET, Jan. 29th, 1898, p. 276.

[2] Clifford Allbutt's System of Medicine, vol. iii., where a complete bibliography may be found.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Discussion on "Pseudo-Tuberculosis."

A MEETING of this society was held on March 7th, the President, Dr. PAYNE, being in the chair.

Professor JOHN MCFADYEAN, in continuing the discussion on Pseudo-Tuberculosis, agreed with speakers on the previous occasion who considered the term "pseudo-tuberculosis" unscientific and open to objection. But it was often extremely difficult to say positively if a lesion were true tubercle as there were no macroscopical or microscopical characteristics which were absolutely distinctive and there were fallacies even in the bacteriological examination owing to some bacilli having similar staining reactions. In practice, however, a trained inspector, who had special experience of the appearance of tuberculous lesions in any particular species was very likely to be wrong in basing his diagnosis on the naked-eye appearances and general characteristics; less likely if he employed histological and bacteriological methods of investigation, as it was often extremely difficult to demonstrate the presence of the tubercle bacillus in an undoubtedly tuberculous specimen and to discriminate it from other bacilli. As an example, he had met with a bacillus in milk which stained exactly like the tubercle bacillus but which was distinguished from it by its morphological characters. There were many true tuberculous lesions which were difficult to recognise, of which illustrations were shown on the screen with the lantern. The first was a specimen of villous-like projection over the peritoneal surface of the liver which contained capillaries and giant cells at the periphery. The second was a specimen of tuberculous mastitis in the cow where the appearances were those of a diffuse cirrhosis of the gland. There were also many conditions to which the term "pseudo-tuberculosis" had been applied of which he showed the following specimens: 1. Small pin-head shotty nodules occurring in the lung of the sheep, in which the microscope showed the presence of an undetermined worm in the centre surrounded by leucocytes and these by giant cells. The resemblance to tubercle was increased by the tendency to softening of the centre. 2. Grey patches from the lungs of the sheep, a scraping from which showed abundance of embryo worms and ova. 3. The so-called "scrofula" of sheep which affected the glands of the head and face which formed abscesses. The septum nasi was covered with nodules which had the same structure as tubercles but contained a different bacillus which could be cultivated. Neither the culture, however, nor the pus itself gave rise to similar lesions if inoculated. 4. "Bacterial necrosis" in the liver determined

by the special "necrosis bacillus." The necrotic area was subsequently invaded by leucocytes and the true nature of the lesions was often very obscure. 5. A nodule in the lung of the horse due to the growth of a mycelium.

Mr. ALEXANDER FOULERTON said that it was a fallacy to suppose that there was anything truly characteristic about the tubercle follicle and he believed that a similar lesion might result from the action of many different bacilli on the tissues. He thought that each tubercle should be distinguished by the name of the bacillus by which it was produced and not as true and false. An abscess might be produced by many organisms, yet they did not speak of an abscess due to one particular organism as true and of those produced by others as pseudo-abscesses. The diagnosis of phthisis was usually made in the post-mortem room on the strength of the naked-eye characters, but bacteriological confirmation was necessary before such cases could be labeled as tuberculous. It had been shown, especially in France, that there were a few cases which, clinically indistinguishable from phthisis and having the same morbid appearances, were in reality due to the presence of an aspergillus, and cultures of this aspergillus inoculated into a rabbit gave rise to lesions exactly similar to those produced by a culture of the tubercle bacillus. The smegma bacillus could be distinguished from the tubercle bacillus by contrast, staining in a concentrated alcoholic solution of methyl violet. There were sometimes bacilli in milk, as Professor McFadyean had said, which could not be decolourised and they would have to be distinguished by culture and inoculation. Mr. Foulerton brought forward specimens showing general infection in the guinea-pig by cultures of pathogenic yeasts, the resulting lesions microscopically and macroscopically resembling tubercles. Mr. Foulerton proposed the appointment of a committee to devise some nomenclature for the forms of granulomata which had been included under the term "pseudo-tuberculosis" and the society appointed the President, Professor McFadyean, Professor Woodhead, Mr. Shattock, and Mr. Foulerton to act on the committee.

Mr. W. C. C. PAKES referred to aspergillosis as one of the forms of disease to which the term "pseudo-tuberculosis" had been applied. He observed that the presence of moulds in sputum from cases of supposed phthisis was not very rare and it occurred in some in which the tubercle bacillus could not be found, and some of these might be really cases of aspergillosis and not of tuberculous phthisis. He thought that this might be an explanation of certain cases which cleared up very quickly.

Dr. LAZARUS-BARLOW was not sure whether the term "pseudo-tuberculosis" should be altogether dropped. It was useful as showing the close resemblance to tubercle and could be used just as the term "counterfeit sovereign" was used. The lesion might be (*a*) anatomically (*b*) clinically (*c*) bacteriologically indistinguishable. For example, the condition of the lung which often proved fatal in diabetic patients closely resembled tuberculosis, but in many instances the tubercle bacillus could not be demonstrated and in these the term "pseudo-tuberculosis" was convenient. Dr. Lazarus-Barlow pointed out that it was often very easy to miss the tubercle bacillus and to attribute causation to other factors unless very laborious investigations were made and mentioned a case in which he made a necropsy. The appearances were those of caseous pneumonia, apparently tuberculous, but on microscopic examination he found that there was a mycelium spreading through the tissue which must have been present at the time of death, as the specimen had been kept in strong spirit. No tubercle bacilli were present in the specimens first examined but he continued his search for them and it was not until he had mounted the forty-ninth that he discovered the presence of the tubercle bacillus.

Dr. F. J. WETHERED said that in 1891 he had the opportunity of investigating "pseudo-tuberculosis," the material being obtained from two cultures of the bacillus which had been sent from Paris. At first there was some difficulty in obtaining pure cultures, but this was eventually accomplished by means of plate cultures. The characteristics of the bacilli and colonies were the same as those already described by Dr. Sims Woodhead. The guinea-pigs inoculated died between the ninth and twelfth day. In every case an abscess formed at the site of inoculation. Those inoculated from pure cultures showed small white nodules scattered through all the organs which on naked-eye and microscopic examination simulated the appearances seen in miliary tuberculosis. In one animal there was no enlargement of the glands, but in others this condition was well marked. Unless microscopic and bacteriological examination had been made the conclusion would have been that the animals died from miliary tuberculosis and if it were a common disease errors might very easily be made during investigations in which guinea-pigs or other animals were employed.

Dr. WOODS HUTCHINSON agreed that the word "pseudo-tuberculosis" was in the scientific sense an absurdity, but it was difficult to get any practical substitute. The discussion had shown that observers agreed that there was an enormous preponderance of the true form and that the doubtful cases were few. But the term had the great convenience that it did not commit the observer prematurely to a statement of what the cause of the lesions was. Much inconvenience had resulted from the hasty adoption of terms expressing supposed causation, since the terms persisted when their significance was proved to be erroneous, as in the case of the term "uræmia," and although the term "pseudo-tuberculosis" was scientifically indefensible it had the advantage of not expressing anything very definite and from its clinical convenience he thought that it would last.

The PRESIDENT said that the lesions which had been under discussion appeared to have only one common feature —viz., that they imposed on observers as being tubercle, and the observer, feeling proud of his own acuteness in escaping from the error, gave them a name which drew attention to his acuteness. But the term was one which need no longer be kept up. He agreed with Mr. Foulerton that a variety of micro-organisms would produce a structure exactly like the tubercle follicle, but he would go farther and say that any irritant would do it provided it was sufficiently small in amount and local in its action. Theoretically, for example, a sufficiently small drop of acid would produce similar follicles, and in practice, in the affection known as ophthalmia nodosa, in which such follicles developed on the sclerotic or conjunctiva, the irritant had been shown by Mr. Lawford to be the hairs of a caterpillar in one case and by Baumgarten to have been due to the hairs of a mouse in another. In these cases the irritant had no power of reproducing itself, but with any irritant capable of reproduction lesions closely resembling miliary tuberculosis were possible. With reference to the occurrence of appearances resembling tubercle the President mentioned specimens which he figured in the Transactions of the Society for 1870 in which an immense number of minute nodules having a fibrous structure were found scattered over the peritoneum and scattered over the liver.

Professor WOODHEAD replied.

The following card specimens were exhibited:—

Mr. FOULERTON: Myoma of the Œsophagus.

Dr. LAZARUS-BARLOW: Aneurysm of the Splenic Artery and Traumatic Rupture of the Trachea.

Professor JOHN MCFADYEAN: Congenital Tuberculosis in the Calf.

Dr. ROLLESTON: Aneurysm of the Splenic Artery, Myoma of the Œsophagus, Myxoma of the Thigh weighing 10 lb., and Gastric Ulcer (albuminuric) in Granular Kidney.

OBSTETRICAL SOCIETY OF LONDON.

President's Address.—Primary Carcinoma of the Fallopian Tube.—Exhibition of Specimens.

A MEETING of this society was held on March 1st, Mr. ALBAN DORAN, President, being in the chair.

The PRESIDENT began the Inaugural Address by showing how the Obstetrical Society of London had from its earliest days taken the deepest interest in gynæcology, now a well-established speciality which had rendered important services to general surgery. Uterine therapeutics and minor gynæcology were associated with abuses, but so were medicine and surgery. They were indispensable and must be well understood because, as in the case of the abscess knife and the catheter, "minor" proceedings with the curette, the sound, and other special instruments were liable to cause grave damage if unskilfully performed. The President specially dwelt on the judgment of gynæcological surgery on general surgical grounds and insisted that good operating was not always good surgery. Plastic surgery had made great advances since 1859. Vaginal hysterectomy for cancer seemed to be good surgery as compared with the cancer practice of the

general surgeon. Ovariotomy proved the key to modern peritoneal surgery. Drainage and flushing of the peritoneum were intimately associated with it, the latter in turn was closely related to transfusion as now understood. In operations for diseases of the appendages due to inflammation a skilful and successful operation might be decidedly bad surgery, or else questionable surgery, or else very good surgery. Exploratory incision was often needed in chronic cases; sometimes it was sufficient to liberate the ovaries and tubes from the painful bondage of adhesions, sometimes only one tube and ovary needed ablation. On the other hand, bilateral suppuration of obstructed tubes of course demanded removal of both. Bad after-results chiefly arose from the pedicle, the tissues of which were often unhealthy, and not from the uterus. In reporting a series of the secases a long after-history was needed. Foreign authorities were very careless about this matter, thus one operator publishes tables where eight operations were performed within six weeks of the reading of the paper. They seem also far too ready to remove the uterus with the diseased appendages. One operator living in a relatively small capital has performed this operation over 500 times in a very few years; his mortality was low but no reliable after-histories were given. Recovery in this class of operation was for obvious reasons no proof that the removal of the parts was necessary, whilst in bad cases where the operation was good surgery the results were not always entirely satisfactory. The removal of ovaries for neuroses was almost universally condemned. Weir Mitchell had categorically declared that the whole principle of such a proceeding was wrong. The surgery of uterine fibroids had greatly progressed, but much more had to be learnt. Fibroids of the broad ligament needed early removal, so did uterine fibroid in a very young subject or in a case near the menopause where there was rapid increase of growth and manifest softening. When in doubt the surgeon should always wait; bleeding and slowly-growing fibroids allowed of watching and palliatives. Speculative operations where the fibroid was small and caused neither severe hæmorrhage nor pressure symptoms were not good surgery. In the field of uterine displacements there were many abuses. A long series of operations had been devised to fix the uterus up in its right place or to support it from below. The variations in opinion and practice showed that much remained to be settled. The President thought that even the pathology of displacements was yet obscure, nor did certain operations overcome the essential morbid condition associated with a flexion or version. Hysteropexy in well-selected cases was beneficial, but as in operations for chronic disease of the appendages long after-histories were needed but were not always furnished in papers written by operators. Surgery must respectfully follow clinical exploration, otherwise not only the surgeon's knife but his power of diagnosis would be blunted by too many exploratory incisions. Patient clinical research was the sheet-anchor of the gynæcological surgeon and surgical proceedings were only justified when clinical research had proved that there was something which ought to be removed or rectified by an operation.

Mr. HUBERT ROBERTS read a paper on a Second Case of Primary Carcinoma of the Fallopian Tube. The case occurred in a married woman, aged 60 years, who had never been pregnant. There was no history of pelvic trouble. The menopause occurred at the age of 50 years. She was perfectly well up to June 27th, 1897, when she first noticed a cherry-coloured watery discharge which lasted three days. Nothing was noted on vaginal examination. On July 3rd, 1897, the discharge recurred and was more profuse but of the same character, lasting two days. In September, 1897, there was very severe abdominal pain followed by another rush of watery fluid. Repeated pelvic and abdominal examinations during the latter months of 1897 revealed no tumour. In the spring of 1898 a fourth attack of watery discharge occurred with severe pain. On April 3rd, 1898, a swelling was first discovered behind and to the left of the uterus. Subsequent examination at the end of April confirmed the presence of a tumour which had grown rapidly and the preliminary diagnosis of a malignant ovarian tumour was made. Abdominal section was performed on May 5th, 1898. The tumour proved to be an enlarged Fallopian tube filled with growth. The operation was one of great difficulty owing to many adhesions and the tube ruptured during the operation. The ovary on the same side was cystic but not infiltrated with growth. The appendages on the other side were healthy. There was no secondary growth or infiltration of the pelvis at the time of operation or any free peritoneal fluid. The patient recovered from the operation. In November, 1898, a favourable report was received of her condition, but early in January, 1899, she was not so well and examination proved that there was already well-marked recurrence of malignant growth in the pelvis. — The PRESIDENT remarked that carcinoma of the tube certainly arose from papilloma such as occasionally developed in an old hydrosalpinx. Mr. Roberts's case seemed to be of that type. In the tables which he himself had prepared[1] the patients were 60 years old in two out of a total of 25 cases and between 56 and 59 in two more. He thought that Doléris was correct in distinguishing an endo-salpingitic papilloma and had himself demonstrated the relation of papilloma to inflammation as long ago as 1879 and noted the malignant degeneration of papilloma in 1888. He had recently come across a case of papilloma of the tube associated with malignant tumour of the broad ligament. He doubted whether cancer had ever been seen to develop in a previously healthy tube.—Dr. CULLINGWORTH said that the question as to the connexion between papilloma and carcinoma could scarcely be settled until an opportunity occurred of examining a carcinomatous tube at an early stage. He (the speaker), notwithstanding that he had had a fairly large experience in tubal affections, had not as yet happened to meet with a single example.—Dr. AMAND ROUTH alluded to a case of primary carcinoma of the Fallopian tube which he had reported to this society. He doubted whether these cases began with papilloma, the microscopic section showing nothing in common with the forms of malignant papilloma which he had seen invading the uterine wall.—Mr. ROBERTS said that he had not been able to find any case recorded below the age of 36 years. He believed the pain to be due to the distension of the tube by fluid which when the tension rose above a certain limit escaped as a cherry-coloured discharge. He thought it quite possible that the case started in an old hydrosalpinx, though there was nothing in the previous history to show this. It was very difficult, if not impossible, to distinguish between papilloma and carcinoma of the tube.

The following specimens were shown:—

Dr. SMYLY (Dublin): Three Myomatous Uteri removed per vaginam by Doyen's method.

Mr. BLAND SUTTON: (1) A Ruptured Ovarian Tumour and (2) an Acardiac Calf.

Mr. A. LIONEL SMITH: An Infant showing Diffused Subcutaneous Induration.

Dr. DAKIN: A Fibro-myoma Spontaneously Enucleated during Labour.

HARVEIAN SOCIETY OF LONDON.

Vanishing Tumours.—Exhibition of Specimen.

A MEETING of this society was held on March 2nd, Mr. HENRY JULER, President, being in the chair.

Mr. D'ARCY POWER read a paper on Vanishing Tumours which was published in THE LANCET of March 4th.

The PRESIDENT referred to the case of a woman who had been under his care in whom both eyeballs were protruding and there was extensive anæsthesia about the forehead and almost complete blindness. In each orbit an indurated mass could be felt at the outer canthus and below the globe. The growths were believed to be malignant and a portion of one of them which was removed for microscopic examination presented appearances which were believed to be sarcomatous and not gummatous. After a few months' treatment with mercury and iodide of potassium the tumours entirely disappeared. They were in all probability gummata.

Mr. ALBAN DORAN suspected that Morrant Baker's "withering sarcoma" of the scalp was akin to the fibromas of the abdominal wall, a large specimen of which he had himself removed from the sheath of the rectus that very day. They caused danger by their size, but sometimes disappeared spontaneously. Reed of Cincinnati had reported one case where the tumour seemed to be irremoveable when exposed by the knife; the skin wound was closed and the tumour, certainly a fibroma, disappeared. Mr. Doran knew of a case where a patient refused operation for what seemed to be a fibroma of the abdominal wall. She became pregnant and the tumour vanished. The majority of vanishing tumours in the abdominal cavity itself were simply cases of tuberculous peritonitis. When a "cyst" was diagnosed and a circumscribed

[1] Transactions of the Obstetrical Society of London, 1898.

collection of serum bounded by intestine bearing old tuberculous deposit was laid open by the knife it was apt to be mistaken for a cyst of the urachus or for a malignant ovarian tumour with metastatic deposits. Even after long experience the surgeon often found such a case very puzzling. But it nearly always got well. Mr. Doran had seen perfect cure follow incision in a number of cases where he had designedly incised the peritoneum for the relief of tuberculous disease and also in two instances where he suspected the dense deposit in the parietal peritoneum to be malignant. He had never known of a case of exploratory incision where real sarcoma or carcinoma was detected which had benefited in the least by such interference.

Dr. F. M. COCK mentioned the case of a widow, aged 71 years, who was feverish. On examination a hard mass was found reaching from the right pelvic wall to the lower border of the liver, easily defined from side to side, not doughy to the touch, and extremely tender. The uterus was partly fixed and there was a bloody discharge. Purgatives had no effect nor were there any symptoms or signs of fæcal accumulation. Consultants were of opinion that the mass was carcinomatous. After an illness of 10 weeks the patient became better, the mass shrank, and at the end of a six months' holiday at the seaside the patient returned quite well with no tumour and ultimately died five years afterwards from bronchitis.

Mr. EASTES referred to the large number of vanishing tumours which were associated with various parts of the organs of generation (male and female), including the female breast. A striking instance was furnished by fibromata of the uterus occurring in middle life. He had seen a uterine fibroid (as large as a pregnant uterus towards the end of gestation) disappear almost entirely within a year after cessation of menstruation and the patient recover health, though previously she had nearly died on several occasions from excessive "monthly floodings." But the vanishing tumours most often seen in general practice were probably fæcal accumulations in the colon. One patient who found aperient remedies always produce pain and consequently neglected them had twice within the last two years allowed such an accumulation to occur and passed through a severe illness before she was relieved. She probably had adhesions; at any rate, there was a history of peritonitis in childhood with constipation ever since. During each of these later illnesses the cylindrical accumulation in the ascending colon measuring six inches in length and four inches in diameter had occupied a fortnight in vanishing, and several days in that period some 10 or 12 distinct, hard, almost spherical masses of fæces had to be removed by the finger or large enemata from the rectum. The medicine which had accomplished the removal in the last illness was a pill composed of resin, podophyllin, and extract of belladonna, an eighth of a grain of each in each pill, given once, twice, or thrice daily according to the necessities of the case.

Dr. LEONARD GUTHRIE believed that there were well-authenticated instances of the spontaneous disappearance of tumours both malignant and benign. The causation of this was of greater interest than the occurrence. Mr. Alban Doran had mentioned a case in which a large abdominal tumour disappeared after ligature of its principal vessels. Perhaps this was the clue to the whole mystery. Tumours were dependent on their blood-supply for their growth. If the blood was cut off the tumour would waste. In most cases this result could not be effected by surgery, but possibly the vaso-motor system might at times cause local constriction of vessels and thus retard the growth of tumours. The phenomena of Raynaud's disease showed that vaso-motor action was capable of producing local gangrene. Possibly the success which occasionally attended the treatment of cancer by drugs depended on their action as vascular astringents. In the last century cancerous breasts were treated by the application of toads which were supposed to suck the venom from the ulcers. But Dr. Lauder Brunton had compared the action of phrynin, the active principle of the secretion of toads' skin, to that of digitalis and erythrophlenin which were powerful vascular astringents. Phrynin has, moreover, a benumbing action on sensory nerves, like aconite. Hence although the remedy seemed absurd it might possibly have been beneficial in some cases. A similar explanation might be offered of the effects of other drugs vaunted as cures for cancer: for instance, carbonate of lime, chian turpentine, and cinnamon, which latter contained tannic acid. Finally, the success which sometimes followed oöphorectomy for inoperable cancer of the breast was possibly due to the profound effect produced by that operation on the whole of the sympathetic system. Perhaps in such cases a local dilatation of vessels in a cancerous region gave place to a local constriction. The effects of strong mental emotion on the sympathetic should not be forgotten. This might account for the miraculous cures of cancer and tumours at Lourdes and elsewhere. But all methods of treatment based on these assumptions were at best uncertain and their effects were but temporary; they were only available in inoperable cases.

Dr. WASHBOURN mentioned some observations which had been made by Mr. Bellingham Smith and himself upon infective sarcomata occurring in dogs and which they had published in the Transactions of the Pathological Society and in the *British Medical Journal*. The sarcomata were originally situated in the mucous membrane of the vagina and penis and were transmitted from animal to animal during the act of coitus. They consisted of round cells with an alveolated arrangement and were similar in structure to the round-celled alveolar sarcomata met with in the human subject. By inoculation they could be transmitted to the subcutaneous tissue of dogs. At the end of two or three months the resulting tumours reached their maximum development, forming lobulated masses about two inches in diameter. They then took one of two courses. Either they became disseminated, secondary nodules appearing in the internal organs causing the death of the animal, or they disappeared. In the latter case they either slowly dwindled away, being replaced by fibrous tissue, or they disappeared by a process of ulceration. A most interesting point was the fact that after the tumour had disappeared the animals were absolutely immune to subsequent inoculations. Up to the present time no micro-organisms bearing a causal relationship to the tumour had been discovered.

Mr. D'ARCY POWER replied.

Mr. BELLAMY GARDNER showed an Improved Ether Inhaler which he had devised. Its advantages were—(1) a breathing channel two inches in diameter; (2) a reservoir for six ounces of ether, the quantity required being emitted upon a sponge by simply turning a tap; and (3) compactness and portability in the filled condition. He had used it in over 700 cases in the past two years and a half and recommended it as combining the advantages of Clover's and Ormsby's inhalers.—In answer to questions by Dr. COCK and Mr. EASTES Mr. GARDNER stated that the supply of ether could be easily regulated and that with ordinary care there was no fear of any fluid entering the face-piece.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases and Specimens.—Peritonitis.—Etiology of Gout.

A MEETING of this society was held on March 1st, Sir JOHN BATTY TUKE, President, being in the chair.

Dr. W. ELDER showed a man exhibiting the Absence of the Fifth Metacarpal Bone in the Left Hand. A radiograph showed that the carpal bones were correct in number but misplaced, while the ring and fourth finger were both articulated to the enlarged head of the (apparently) fourth metacarpal bone. Dr. Elder also showed a man suffering from Amyotrophic Lateral Sclerosis. The signs began to show themselves about 12 years ago. The disease usually affected the arms, but in this case the legs showed the changes. Both feet were markedly clubbed and inverted. The knee-jerks and ankle-clonus were present.

Mr. HAROLD STILES exhibited (1) a boy, aged 12 years, who showed in a marked degree the severe results of Infantile Paralysis; (2) a child, aged seven months, with a very large Hydrencephalocele; and (3) a child with Coxa Vara.

Dr. SCOT SKIRVING and Dr. CAMERON showed a man with Total Necrosis of the Frontal Bone. The patient was 52 years of age and had contracted syphilis 35 years ago. No treatment had ever been carried out. He married two or three years after infection and yet his wife was never affected. He was the father of three healthy children. The whole of the anterior half of the calvarium was wanting and the brain was seen pulsating over this area. The orbital plate on the right side was gone and the upper surface of the eyeball was evident. He did not suffer from any

secondary symptoms of the disease. Seven years ago the hard palate became perforated.

Mr. STILES exhibited (1) the Viscera from a case of Lympho-sarcoma of the Abdomen which simulated abdominal tuberculosis clinically; and (2) the Thoracic Viscera from a Child who suffered from Severe Dyspnœa with Expiratory Stridor and in whom there was found at the post-mortem examination an enlarged gland of the size of a small walnut pressing on the lower end of the trachea.

Dr. SCOT SKIRVING showed a specimen of Tuberculosis of the Mamma which occurred in the right breast of a girl, aged 18 years, and a specimen of Compound Fracture of the Carpus.

Mr. CATHCART exhibited a Clinical Research Case which he had devised for use at the bedside.

Mr. CATHCART read a paper entitled Peritonitis as a Cause of Increased Peristalsis in the Rectum and Lower Part of the Intestine. He related the case of a healthy married woman, aged 37 years, who during menstruation developed a follicular tonsillitis. She recovered apparently from this but was seized a few days later with a sudden sharp pain in the pelvis. There was constant tenesmus but no fæces passed. It was thought that she was suffering from an impaction of fæces at the sigmoid flexure and the collapse which she presented was similar to that seen sometimes in simple colic. The patient died suddenly 30 hours after her first seizure. At the post-mortem examination an acute recent pelvic peritonitis was found and streptococci were present in the fluid. Death had resulted from septic poisoning. Another case was that of a healthy young married woman, aged 26 years, five months advanced in her first pregnancy. 10 days previously to her being seen she thought she had caught a chill and suffered from such difficulty in micturition that a catheter had to be used. During a motion of her bowels she felt what she described as a great lump which suddenly came down the back passage. Every few minutes spasms came on, the whole body being involved just as in labour and the mucous membrane of the rectum was everted. It looked like an impending abortion but the uterus remained unaffected. A lump was noticed in the perineum and being resonant it was diagnosed as a hernia. Under chloroform reduction was attempted but unsuccessfully. During the night much fœtid fluid and gas escaped through the vagina, showing that a perirectal abscess had burst. The patient miscarried a week later. In this case the cellulitis round the rectum had produced intense tenesmus. Mr. Cathcart's work in the lock wards had shown him that proctitis caused frequent action of the bowels and dysuria. During the disease the rectum never regained its tone, the anus remaining patulous. The same condition (gaping anus) was seen in many cases of enlargement of the prostate. It was probably only partially true that the strain in emptying the bladder in such cases caused strain in the rectum; there was probably also a reflex action. Another case related was that of a young man who was operated on for fœtid abscess of the vermiform appendix. He remained well for 10 days, then became dull and apathetic. The abdomen became distended and the temperature rose but not the pulse. He lost control over his fæces and the anus became patulous. A fœtid collection of pus was found to be present in the pelvis round the rectum. On opening the abscess the patient recovered. This case was related to show that irritation round the rectum caused increased peristalsis. Certain writers had noted this as a cause, as Potts in 1762 and Ashton in 1857, while others (and especially recent writers) do not refer to it. It had been experimentally shown that peritonitis caused peristalsis in the small intestine. This increase in peristaltic action was later replaced by paralysis which first showed itself in the large intestine. Dr. Gee, in the Bradshaw Lecture of 1892 on the Signs of Peritoneal Disease, said that there was really no difference between the cause of pain in colic and that in peritonitis. Peritonitis caused colic and so there was pain as an early symptom of this affection. The mechanism must act at first through the nervous system, but when the muscular coat became involved this could no longer exert influence and paralysis came on. This increased peristalsis was not present in all cases of peritonitis. The form of irritant might have an important action and again a sufficiently large area of the rectum might require to be involved in order to produce this diarrhœa.

Dr. CHALMERS WATSON read a paper on the Etiology of Gout. After criticising the various definitions of gout he gave a rapid summary of the chemistry of uric acid. In contradiction to Dr. Garrod and Dr. Luff he had found that uric acid was present in the blood of birds and consequently deductions based on the fact that uric acid was not formed in the blood must be untrustworthy. The liver was found to contain a larger absolute amount of uric acid than other organs. Dr. Watson had not found any evidence to support the view that the kidney was the main seat of formation of uric acid.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF ANATOMY AND PHYSIOLOGY.

Effects of Sodium Chloride on the Secretion of Urine.—The Seventh Cranial Nerve.—Anæsthetics and Urinary Secretion.

A MEETING of this section was held on Feb. 3rd, Dr. D. J. COFFEY, the President, being in the chair.

Professor W. H. THOMPSON read a communication dealing with the Effects of Minute Quantities of Sodium Chloride on the Secretion of Urine. Solutions of sodium chloride (0·6, 0·65, and 0·9 per cent. strength) were injected into the external saphenous vein of dogs in quantities varying from 30 c.c. to 50 c.c. Urine was collected from both ureters by means of cannulæ. The animals were given a hypodermic injection of morphine and were anæsthetised with a mixture of chloroform and ether. The result was a marked increase in the amount of urine secreted, far exceeding the amount of fluid injected. Both the total nitrogen and the urea also suffered an increase.

Dr. BIRMINGHAM read for Professor DIXON of Cardiff an abstract of a paper on the Sensory Distribution of the Seventh Cranial Nerve in Man. Professor Dixon considered that the facial nerve in man was in a condition comparable with what was found in lower vertebrates. It clearly resembled in its distribution what had been called a typical branchial nerve. The facial possessed two sensory branches—namely, the chorda tympani and the great superficial petrosal nerve. Both of these nerves were probably nerves of taste; the chorda tympani certainly was so, but this had not been definitely proved in the case of the great superficial petrosal nerve.—The PRESIDENT thought the question of the nerve of taste one of the most difficult in connexion with the physiology of the nervous system.—Professor SYMINGTON said that with regard to the distribution of the chorda tympani and the great superficial petrosal, on theoretical grounds he should be in perfect harmony with Professor Dixon.—Dr. A. R. PARSONS said if the course which the taste fibres took were known with certainty it would be a great aid in the localisation of disease.

Professor W. H. THOMPSON made a preliminary communication on Anæsthetics and Urinary Secretion, of which the following is a brief summary:—1. A mixture of ether and chloroform (two to one) did not cause an increased diuresis. This was the anæsthetic used in his sodium chloride research. Six experiments were performed on dogs. 2. A.C.E. mixture, on the contrary, did in most cases markedly increase the amount of urine. In one case suppression was caused. This dog proved to have albuminuria. 3. Ether also produced an increase of urine, as did chloroform likewise, but with this latter anæsthetic only one experiment had so far been carried out. 4. Little or no effect was produced by the various anæsthetics on the total output of nitrogen and of urea, even in cases where marked diuresis was caused. 5. The after-effect on the output of chlorides showed a marked diminution. What the immediate effect was had not been so far definitely decided. 6. In eight experiments (with different anæsthetics) the urine was examined for carbohydrates with chloride of phenylhydrazin and sodium acetate. All but one gave crystals. Some of these were undoubtedly glucosazone, others glycuronic acid, while in one case it was probable that the crystals were those of galactosazone. In all cases the dogs were injected with a solution of morphine.

SECTION OF OBSTETRICS.

Rotunda Lying-in Hospital Report.—Exhibition of Specimens.

A meeting of this section was held on Feb. 10th, Dr. F. W. KIDD, the President, being in the chair.

A discussion took place on the Rotunda Hospital Obstetrical Report for 1898.

Dr. MORE MADDEN said the record was most creditable. He believed that this was due to the strict asepsis practised in the hospital. Dr. Purefoy had set a good example in the use of ergot in post-partum hæmorrhage.

Dr. W. J. SMYLY, referring to accidental hæmorrhage, said that the best treatment was still practised—namely, that if the patient had not strong labour pains it was a mistake to rupture the membranes and if there was external hæmorrhage the uterus should be plugged. In London students taught at the Rotunda had been rejected at examinations for not saying that they would rupture the membranes in such cases. Even the nurses who went up for the examination of the Obstetrical Society were instructed beforehand to say, if asked what they would do in a case of accidental hæmorrhage, that they would rupture the membranes, which, he thought, would be most improper.

Dr. MACAN pointed out that the mortality of the internal department was, contrary to what they would expect, twice that of the external department.

Dr. PUREFOY, Master of the Rotunda, in reply said that with regard to the use of ergot in post-partum hæmorrhage it was needless to say that they only used it when the placenta was absent. One possible explanation of the fact that the mortality was greater in the internal than in the external department was of course that the bad cases in the external maternity were admitted into the hospital.

Specimens were exhibited by Dr. EMILY WINIFRED DICKSON, Dr. W. J. SMYLY, Dr. F. W. KIDD, and others.

MANCHESTER CLINICAL SOCIETY.—A meeting of this society was held on Feb. 21st, Dr. A. Hill Griffith, President, being in the chair.—Mr. F. Bowreman Jessett (London) opened a discussion on the Operative Treatment of Malignant Disease of the Breast and Uterus. He referred to the bad results which had followed operation by the older methods owing to the inperfect knowledge of the mode of spreading of carcinoma and sarcoma and to the ignorance of the anatomy of the lymphatic system. It was only during recent years that the importance of free and wide removal of the disease had been recognised. The researches of Mr. Harold Stiles and of Heidenhain as to the way in which many of the lymphatics of the breast enter the pectoral fascia and pectoral muscle were referred to. Malignant disease, wherever situated, was much more likely to recur after operation in persons under 30 or 35 years of age than in persons over 50 years of age. In old persons by removing the enlarged lymphatic glands again and again the disease might sometimes be eradicated. Hence it was important after removal of the breast to examine the patient every two or three months so that any recurrent growth could be at once removed. The prognosis after operation in malignant disease of the breast depended not only upon the age of the patient but also upon the extent of the operation and upon the nature of the malignant growth. In cases of sarcoma and of duct cancer the prognosis was much better than in cases of scirrhus. Soft, rapidly-growing cancers were also more liable to recurrence. In cases of atrophic scirrhus possibly operation might do more harm than good. In order to preserve the movements of the arm and shoulder-joint it was recommended that the arm should be fastened by means of a bandage to the head of the bed for some days after the operation. In at least 20 per cent. of his cases there had been no recurrence within three years. Mr. Jessett had performed vaginal hysterectomy for uterine carcinoma in over 120 cases. Cases of malignant disease of the os uteri and lower part of the cervix were most favourable for operation. Eleven such patients operated upon between 1892 and 1896, in addition to others of later date, were alive and well. In the body of the uterus the prognosis was not so favourable. He expressed the opinion that many cases arise from malignant degeneration of a submucous fibroid tumour. Between 1891 and 1895 he had performed vaginal hysterectomy for cancer of the body of the uterus 16 times. Four of these patients were free from recurrence at periods varying from three to six years. The most unfavourable cases were those in which the disease commenced in the cervical canal, owing to the rapidity with which the disease extended to the surrounding parts and the uterus becoming fixed. Of the whole 120 cases only eight patients had died as a result of the operation. Of 70 cases operated upon prior to July, 1896, 15 patients were known to be alive and free from recurrence, whilst five others had died more than three years after operation from other diseases than cancer. The importance of early diagnosis of malignant disease, both in the breast and in the uterus, was dwelt upon. Mr. Jessett had in two cases followed the recommendation of Dr. Beatson that oöphorectomy should be performed in certain cases of inoperable cancer of the breast, but in neither case was the slightest benefit noticeable.—Mr. Stanmore Bishop protested against the dictum that those breast cases were least liable to recurrence in which suppuration occurred in the wound. Skin should be sacrificed freely, but it was always best to obtain primary union by gliding flaps or by Thiersch's grafts.—Mr. Milner mentioned two cases in one of which, four years after amputation of the breast for cancer, there were numerous deposits in the scar and in the axillary and supra-clavicular glands. No further operation was performed, but two years later most of these deposits had atrophied and some had disappeared. The patient had been last seen nine years after the operation. In the other case, one of fungating scirrhus of the breast, the tumour and the axillary glands weighed nearly 10 lb. There had been no recurrence four years after operation.—Dr. Helme argued against the opinion that in all cases of discharge from the senile uterus one should infer a malignant origin and should resort to hysterectomy.—Dr. Donald, Dr. Buckley, Dr. Walter, Mr. Platt, Mr. J. W. Smith, and Dr. Graham also took part in the discussion.

MIDLAND MEDICAL SOCIETY.—The seventh ordinary meeting of this society was held on March 1st at the Medical Institute, Birmingham, the President, Dr. W. G. Lowe, being in the chair.—Mr. Gamgee showed a case of Coxa Vara. The patient was a male, aged 16 years. The disease affected the left hip and had been noticed seven months. The chief symptom was pain about the hip on standing. The chief physical signs were—(*a*) three-quarters of an inch of shortening; (*b*) free flexion; (*c*) abduction very limited; (*d*) the trochanter above Nélaton's line; (*e*) muscular wasting; and (*f*) displacement of the trochanter outwards. A radiograph was exhibited showing the dropping and lengthening of the neck of the femur which characterised the disease.—Dr. Kauffmann showed a man, aged 53 years, the subject of Senile Chorea. The affection which was attributed by the patient to the carrying of excessively heavy weights (he was a market porter) had come on gradually, commencing two years before in the left hand. There was no nervous disorder in any near relative, several of whom were living. The patient appeared aged beyond his years. His reason was good, his speech was a little jerky, and his voice was feeble. There was no aphasia. The handwriting which the sufferer declared used to be very good was quite illegible, the marks bearing no recognisable resemblance to ordinary letters. The choreic movements affected the face, the respiratory muscles, and all four limbs and resembled in character those seen in juvenile chorea. They ceased only for short periods during sleep, being continued during the greater part of apparently sound sleep. Under observation the movements became markedly aggravated. The muscular weakness was such that the patient could not walk unsupported.—Dr. Short showed a case of Wasting of the Thenar and Interosseous Muscles of the left hand in a compositor. There was no history or sign of lead-poisoning. He had worked for six years with a compositor's "stick" in the left hand and six months ago the left hand was first noticed to be weak. There was some cramp in it at first but no tingling or numbness of the hand. The hand gradually wasted and when seen two months ago showed the reaction of degeneration. There had been no sensory symptoms throughout. Great improvement had taken place under treatment and now there was no reaction of degeneration. His hand was now fairly strong. In spite of the great improvement the prognosis in this case was still doubtful. It was shown as one of the cases referred to in Dr. Short's paper on the treatment of "Occupation Neuroses."—Mr. Jordan Lloyd showed specimens of Carotid and Aortic Aneurysms removed post mortem from the body of a man, 38 years of age. The man had a healthy history and had never suffered from venereal disease of any kind. Seven weeks before his death he had first observed a swelling in the right side of the neck at the level of the upper border of the larynx which had the ordinary characters of a carotid aneurysm. He was admitted into the Queen's Hospital for the purpose of ligation of the vessel. He was then in his usual health. During the night preceding the morning on which the operation was to have been performed

he was suddenly taken with hæmoptysis—small in amount—became collapsed, and died within half-an-hour of the onset of the first symptoms. The necropsy showed death to have been due to a rupture of a moderate-sized aneurysm of the thoracic aorta situated about three inches beyond the arch and developed from the right side of the vessel over the front of the spine towards the right pleura. Rupture had taken place into this cavity. The lower lobe of the right lung was adherent to the wall of the aneurysm and at the site of this adhesion an escape of blood had taken place into the lung, giving rise to a large pulmonary apoplexy. The man had not complained of any symptom which directed attention specially to the chest, but the lungs and heart were examined in the ordinary manner and passed as healthy.—Dr. Walter Jordan read a paper on Spastic Paralysis in Childhood.—Dr. Short read a paper on Ten Cases of Occupation Neuroses.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—A meeting of this society was held at 20, Hanover-square, W., on March 2nd, the President, Dr. R. Fortescue Fox (Strathpeffer Spa), being in the chair.—20 candidates were elected.—Dr. Douglas Kerr (Bath) read a paper on the Treatment of Disease by Heat. After mentioning that the Turkish bath was first introduced into England in 1860 he referred to box baths heated by lamps of various forms and described the Tallerman, Dowsing, and Greville apparatus. He pointed out that the principle underlying the treatment was expressed in the fact that cold applied to the body surface stimulates, while heat facilitates, function; he made a strong point of the use of whole body-bathing in hot air apparatus as against local appliances; he gave the facts of such high temperatures as are noted in textbooks and expressed the opinion that hot-air baths would prove a useful adjunct to thermal treatment but would not give such good results when employed alone. Dr. Kerr concluded by pointing out the peculiarity of the heat supplied by the Dowsing bath which was luminous and radiant, in this respect more closely resembling the sun's rays.—Dr. Hedley (London) read a paper entitled the Therapeutics of Heat. He first referred to the hygienic and curative uses of heat in ancient and modern times. He then discussed the merits and demerits of recent apparatus for the application of high temperatures to the body, giving marked preference to such as supplied heat from a luminous source, inasmuch as it had been proved by experiment that as light rays were added the heat rays became more intense. He then dwelt upon the *modus operandi* of heat in therapeutics, taking the instance of a simple sprain and those phases of the inflammatory process that were likely to be influenced by heat.—Dr. Whitby (Clifton) said that both dry and moist heat caused a measurable increase of the girth of the limbs and a decrease of the abdominal girth, the latter from depletion of the splanchnic vessels.—Dr. Luff (London) said that he had had excellent results from the employment of local superheated air-baths in selected cases of gout, rheumatism, and rheumatoid arthritis.—Dr. James Myrtle (Harrogate) said that the great and immediate relief of local pain so often seen was probably due to a soothing action on the peripheral nerves and on the vaso-motor system. He then illustrated the clinical value of the superheated air-bath by relating the history of several cases, in one of which a temperature of 392° F. had been attained.—Dr. Bowles (London) said that in the Dowsing bath it was claimed that the heat was radiant and produced different effects. Inasmuch as it had light as well as heat it was different, but the value of the effect of this light had not been in any way gauged. In his experiments in the Alps he found that light reflected from snow acted quite differently on the human tissues to direct sunlight and that the effects were entirely out of proportion to direct heat.—Dr. Hyde (Buxton) remarked that after several years' observations he discovered, especially in rheumatoid arthritis, that many of his apparent successes were not permanent. In many the pain and swelling remained reduced, but the joints afterwards became more fixed and crippled.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 21st, the President, Dr. J. B. Berry, being in the chair.—The following cases and specimens were shown:—Dr. March: A Case of Actinomycosis of the Upper Jaw.—Dr. J. H. Bell: A Case of Leucoplakia of the Tongue.—Dr. Bronner: Two Cases of Operation for Mastoid Disease.—Dr. Mitchell: A Specimen of Hydatidiform Mole.—Dr. Althorp showed specimens of (1) Sarcoma of the Sternum; and (2) an Ovarian Tumour removed by Operation.—Mr. Rawson showed a Foreign Body (wire with attached thread) removed from the Male Urethra.—Mr. Wilmot showed: (1) A Stomach showing Extensive Ulceration; (2) Cerebral Hæmorrhage in a girl, aged 19 years; and (3) Cardiac Thrombosis.—Dr. Campbell showed organs from a case of Lymphadenoma.—Dr. Rabagliati showed a Fibroma of the Uterus removed by operation.—Dr. Wood showed a Fibroma of the Uterus removed by operation.—Dr. Mitchell related a case of Recurrent Melanotic Sarcoma which he had treated by the application of formalin. The case was one in which a melanotic sarcoma of the cheek had been twice removed and had recurred. The recurrent growth was of the size of the first and was not deemed suitable for further operation. The skin over the growth had ulcerated and constant hæmorrhage was taking place. The hæmorrhage was not stopped by the use of ordinary styptics and the application of a strong solution of formalin was tried. This was completely successful in checking hæmorrhage, and not only so but it induced coagulation and dry necrosis of the tissues for a depth of about a quarter of an inch. This dried portion could be removed by the knife without any bleeding and thus it was possible to get away all the obvious growth piecemeal. The solution contained 20 per cent. of formic aldehyde and was applied by soaking a piece of cotton wool and covering this with gutta-percha to prevent evaporation. A good deal of pain was caused by the application which lasted for a considerable time; the pain was controlled by the administration of opiates. Some œdema of the eyelid and also of the neck was occasionally produced but caused no trouble. Dr. Mitchell suggested that the application of formalin might form a useful means of treatment in cases of tumour which for various reasons were not amenable to ordinary surgical treatment.—Dr. Bronner read a paper advocating the Use of Protargol as a Local Application in Diseases of the Eye and Throat in cases where nitrate of silver had been usually employed. Among the advantages he enumerated were its comparative painlessness in application and its non-staining property.—Mr. Horrocks read a paper on Gastroplication for Dilated Stomach.

HAMPSTEAD MEDICAL SOCIETY.—A meeting of this society was held on Feb. 14th at 167, West-end-lane, at the invitation of Mr. Hardwicke.—Mr. A. H. Tubby gave a lecture on the Diagnosis and Treatment of Sprains and on some Fractures. After referring to the difficulty of diagnosis of sprains and to the use of the x rays in excluding fractures he defined a sprain as a momentary alteration in the relation of bones with injury to the surrounding tissues, described the structures comprising a joint, and enumerated the following as the symptoms of sprains. 1. Pain of short duration due to the stretching of ligaments and soft tissues. 2. A quiescent stage of from two to three hours' duration during which effusion of blood and lymph took place. 3. Pain of long duration due to pressure by effusion on terminal nerves. 4. Extravasation of blood. It was important to watch the site of this as it gave a fair indication as to the ligaments injured and the future direction of passive movement later. 5. Tender spots which were usually found in the following situations: (*a*) in sprain of the knee at the internal tuberosity of the tibia; (*b*) in sprain of the ankle at the top of each malleolus; and (*c*) in sprain of the elbow about one inch below the external condyle. The following treatment was recommended:—First stage: Place the joint in such a position as to ensure the smallest potential cavity. Immobilise. Apply firm pressure by means of wool and bandage. Use an ice-bag or evaporating lotion. Maintain this until the third stage is reached. Then employ gentle massage and heat to aid resolution. If the tender spots persisted iodine and blistering should be resorted to. In a child when a sprain does not clear up in six weeks tuberculous disease should be suspected and the parts should be rigidly immobilised. Mr. Tubby then passed on to consider "some fractures," remarking that of all these injuries those in the neighbourhood of the elbow were the most difficult to diagnose. He propounded this axiom which he had learnt from Mr. Robert Jones. In all cases of acute or doubtful injury at the elbow-joint, excluding fracture of the olecranon, extend, supinate, flex fully, and fix in this position. Avoid splints and bandage the arm to the chest and the hand to the opposite shoulder. This treatment was suitable for fracture of the condyles, coronoid process, or transverse fracture of the lower end of

the humerus. Reference was then made to subluxation of the radius and separation of the epiphyses in children. Pott's fracture was briefly touched on, the necessity of over-inversion being urged in every case. The splints advocated were plaster of Paris (Croft's) and malleable iron.—A discussion followed.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 1st, Mr. T. Davies Pryce, President, being in the chair.—Dr. J. W. Noble read a paper on Joint Affections in Locomotor Ataxia, describing an interesting case which had been under his care for the past two years. The patient, a woman, aged 39 years, with a history of syphilis, had been ataxic in her walking for less than a year before the onset of the swelling in her right knee. The effusion reached its maximum size in three or four days and by the end of three weeks there was much deposit of bone salts. The bony growth had since been gradually absorbed, giving rise to an outward and upward dislocation of the tibia on the femur, the outer condyle of the femur and the inner tuberosity of the tibia having disappeared. The morbid anatomy of the joint was described, also that of the spinal cord, and the theories as to the causation of the joints being so suddenly and apparently capriciously affected were discussed. Contrasting the tabetic affection of the joint with rheumatoid arthritis the differences were chiefly (1) the sudden onset; (2) the comparative painlessness; (3) the size of the joint affected; and (4) the affection of one joint only as a rule, the foregoing being characteristics of the tabetic joint affection.—Mr. Laws showed a patient suffering from Ophthalmoplegia Interna. He considered that this case supported the view that the paralysis was due to an affection of the bulb.—Mr. R. C. Chicken showed a case of Compound Depressed Fracture of the Skull produced by a Kick from a Horse. The patient was a child aged six years. He had been trephined three times in all, once soon after the accident and twice subsequently for paralysis which remained. When shown he was perfectly well. Mr. Chicken also showed a Small Foreign Body which had lodged in the bronchus of a child producing intense dyspnœa and lividity, with coughing and other urgent symptoms. It remained in the bronchus for a day or two and was then coughed up. It proved to be a piece of walnut.—Mr. J. G. Willis showed a Cystic Adenoma of the Thyroid which he had removed by operation from the patient whom he had shown at the previous meeting. The incision for the removal had been made down the anterior border of the sterno-mastoid and when the capsule had been defined enucleation was not attended with any great difficulty.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A clinical meeting of this society was held at the West London Hospital on March 3rd, Dr. S. D. Clippingdale, President, being in the chair.—Dr. Andrew Elliot showed a case of well-marked Locomotor Ataxy in a Woman.—Mr. William John spoke.—Mr. McAdam Eccles showed (for Dr. G. P. Shuter) a Survivor of the Faversham Detonator Explosion. She had lost her sight and had suffered amputation of the left forearm.—The President showed a young woman who exhibited a Want of Development of the Left Forearm and Hand.—Mr. Rowland Pollock showed two brothers with Multiple Want of Development of the Hands and Feet.—Mr. McAdam Eccles showed a man with Marked Want of Growth of the Right Upper Limb.—These cases of deformity were admirably demonstrated on the fluorescent screen by Dr. H. Low and were discussed by Dr. H. P. Potter, Dr. E. P. Paton, Dr. P. Abraham, Mr. F. Savery, Mr. W. E. C. Musson, and Mr. Vaughan Pendred.—Mr. Brindley James showed a young man with a Deep Sulcus above and behind the Upper Part of the Manubrium Sterni.—Mr. McAdam Eccles and Dr. E. P. Paton made a few remarks.—Dr. Andrew Elliot showed (for Dr. Seymour Taylor) a man who presented many of the Symptoms of Myxœdema.—Mr. McAdam Eccles exhibited a man with a Marked Nævoid Condition of the Penis and Scrotum.—Mr. Vaughan Pendred showed: (1) A girl, aged 19 years, who had marked symptoms of what appeared to be Pseudo-hypertrophic Paralysis; and (2) a case of possibly Early Acromegaly.—The cases were discussed by Dr. Arthur Haydon.

ÆSCULAPIAN SOCIETY OF LONDON.—A meeting of this society was held on March 3rd, the President, Mr. D. H. Goodsall, being in the chair.—Mr. W. Campbell M'Donnell showed a photograph, sketch, and microscopic specimen of a Multiple Diffuse Myoma from a multipara, aged 37 years, an alcoholic, who died from septicæmia. The attendant had tried for an hour to remove the placenta by the hand in utero but only partly succeeded. Hyperpyrexia followed on the third morning when a handful of placenta was removed. Under ether further attempts were made to remove what seemed to be adherent fibrosed fragments, some of which were removed by the blunt curette. A later attempt was made on the fifth day. The patient died from cardiac failure 12 hours after the operation. From the first the pulse was bad, being 130 per minute, with a temperature of 99° F. The uterus was covered for the greater part of its body with bossy and pedunculated masses which were growing in the cornual angles and were, as proved by the microscope, of myomatous structure. The upper third of the endometrium was gangrenous and the broad ligaments were intensely inflamed. The lymphatics of the myoma were crowded with micrococci and there was no reactionary inflammation there.—Dr. B. G. Morison read notes of a case of Rectal Impaction of Tiger Nuts in a boy, aged 11 years, who was anæsthetised on account of the impracticability of removing the mass by the finger or spoon. Then ovum forceps removed a soap-dishful of undigested nuts. On the third day he passed a "concrete-like motion" after an enema and did well.

Reviews and Notices of Books.

A Manual of Diseases of the Nervous System. By Sir WILLIAM GOWERS, M.D., F.R.C.P. Lond., F.R.S. Third edition. Edited by Sir WILLIAM GOWERS and JAMES TAYLOR, M.A., M.D.Edin., F.R.C.P. Lond. Volume I., Diseases of the Nerves and Spinal Cord. London: J. & A. Churchill. 1899. Price 15*s*.

WE welcome the appearance of the first volume of a new edition of Sir William Gowers's great work which is certain to be the standard authority on diseases of the nervous system for many years to come. In reviewing former editions we have spoken fully of the completeness of its scope, the wealth of clinical and pathological information in every page, of the soundness of its teaching, and of the remarkable clearness and aptness of the diction employed, and in the present edition we can speak in even stronger terms in praise of its excellence. The book throughout bears evidence of the most careful revision. The account of the structure and functions of the spinal cord has been re-written so as to incorporate the results of the researches of Golgi, Ramon y Cajal, and others. Sir William Gowers himself contributed so powerfully to the establishment of the new doctrines in his work, "The Dynamics of Life," that his riper views will be read with interest. The nerve cell is dethroned from its position as the all-important element in the cord and in its place we find the "neuron"—i.e., the cell plus its axis cylinder and its short processes with their branching terminations. The adoption has involved alterations in speaking of the pathology of most of the organic diseases of the spinal cord and it will still more profoundly affect the teaching as to the pathology of the diseases of the brain.

There is an admirable chapter on the value of various symptoms in indicating the locality and extent of spinal lesions and the usefulness of the section has been increased by a reproduction of the diagrams showing the sensory root areas as described by Dr. Henry Head.

A very clear account of the present state of our knowledge with regard to the "muscle spindles"—the sensory organs of muscle—is given as an appendix by Dr. F. E. Batten.

Of the new matter the most important is the section on Sclerosis from Toxic Blood States on which Dr. Taylor has previously published instructive papers. The form known as pellagra, supposed to be due to some fungus or

micro-organism growing on maize, and the sclerosis associated with anæmia and other blood states are well described and illustrated by micro-photographs of characteristic sections.

There are a few changes in nomenclature. "Infantile Paralysis" and "Progressive Muscular Atrophy" are displaced by "Acute Atrophic Paralysis" and "Chronic Muscular Atrophy."

A number of new illustrations are scattered through the book and we are glad to see that it is printed on better paper than that used for previous editions. We would point out, however, that some of the blocks show signs of wear and the resulting prints are not quite worthy of so important a book and in the second volume we have no doubt that this point will not escape attention.

Sir William Gowers's book is already an accepted classic on neurology and one of which he and the profession in England may well be proud, since it is a standard text-book in other countries besides our own, and we heartily congratulate Sir William Gowers and Dr. James Taylor on the appearance of this new edition which will not merely sustain the very high reputation which the manual enjoys but will enhance it.

The Anatomy of Labour as Studied in Frozen Sections. By A. H. F. BARBOUR, M.D., F.R.S.Edin. Second edition. Post 8vo. Edinburgh: W. & A. K. Johnston. 1899.

IN the second edition of his book Dr. Barbour has added the results obtained from the study of the 25 frozen sections illustrating the anatomy of labour published during the last 10 years. As the new facts simply support and supplement the conclusions already arrived at he has not re-written the whole book but embodied them in a new chapter. It is interesting to note how fully the new facts do corroborate the conclusions of Dr. Barbour and the other workers in this field of anatomy, and although the time has not yet arrived when the history of labour can be constructed from a series of frozen sections, yet our knowledge upon various details is much fuller than it was and is in some respects almost complete. Valuable assistance has been derived in the study of the more recent sections by the use of casts for determining the forms and relations of cavities and masses.

We may briefly call attention to some of the more important points brought out by a study of the 38 sections which are now available for the student. An examination of the relations of the peritoneum shows that while anteriorly there is a tendency to its elevation during the first stage of labour and still more so during the second stage, posteriorly the level of the pouch of Douglas does not tend to be affected by labour. The fact that the level of the fundus of the uterus is the same, or even relatively higher, in the second stage than in the first stage is confirmed by Dr. Barbour's section of a case towards the end of the second stage of labour. Casts of the form of the uterus during pregnancy and labour show that while the pregnant uterus moulds itself upon the spinal column and pelvis, the uterus during the second stage moulds itself upon the child.

Von Franqué's researches upon the relations of the lower uterine segment and the cervix, taken together with the recent sections, may be regarded as settling once and for all the celebrated discussion as to the exact limits of the cervix and undoubtedly show that no portion of that canal takes part in the formation of the uterine cavity. The elongation of the body of the fœtus during the second stage by the straightening of its spinal column is well shown by the attitude of the fœtus from a case towards the end of the second stage of labour. A very interesting point now clearly brought out is that the lower part of the anterior uterine wall is thinner than the rest before labour begins; this thinning is increased during labour. A corresponding part develops posteriorly. There is therefore in a normal labour a separation of the uterine wall into two parts at the retraction ring. In all the sections published except one the chin of the child is flexed on the sternum before the commencement of labour and during the second stage until the head is born. The one exception is Pinard and Varnier's case of occipito-posterior presentation. It becomes a question, therefore, whether we are justified in speaking of flexion as a movement of labour at all. An interesting confirmation of the view that simple diminution of the placental site is not sufficient to cause separation of the placenta is shown by Pestalozza's section with twin placentæ, where there is no separation, and Pinard and Varnier's case of triplets, where the separation has occurred only at the lower margin of the larger placental mass. The membranes are shown to be completely separated during the second stage of labour up to the retraction ring but not above it. Webster's sections from the puerperium bring out two new points: that the uterus after delivery sinks into the pelvis and compresses the veins of the broad ligament and so lessens the bleeding and that the uterus is not diminished in size during the first three to four days of the puerperium.

The study of the anatomy of labour is a very absorbing one and we can cordially recommend the second edition of this book, written as it is by one of the chief authorities, to all those who desire to keep their knowledge of the subject up to date. The book is illustrated by a number of figures and of plates of the more important sections published.

Albuminuria and Bright's Disease. By NESTOR TIRARD, M.D., F.R.C.P. Lond. London: Smith, Elder, and Co. 1899. Pp. 362. 15 Illustrations. Price 12*s.* 6*d.*

THE appearance of a new work on renal disease cannot fail to excite interest and curiosity as to its contents among medical readers, inasmuch as although a great deal of research has been carried on both at home and abroad no special and critical treatise has appeared on the subject in England for a number of years. Of the two subjects in this volume that of Albuminuria is undoubtedly the better treated. Dr. Tirard divides albuminuria into (1) extra-renal, such as that due to pyelitis or cystitis, and (2) renal or true. The latter is further considered in two groups, of which one includes albuminuria due to definite structural changes in the kidney, while the other contains functional or cyclic albuminuria; hæmatogenous albuminuria due to toxic, dietetic, and febrile causes; and albuminuria due to mechanical factors such as venous engorgement. The prognosis on the various functional forms of albuminuria is definitely stated to be good provided that there is no doubt about the diagnosis; this is especially true, as proved by the author's experience, with regard to dietetic albuminuria.

Special chapters are devoted to Acute Nephritis and to Scarlatinal Nephritis. Under the heading Chronic Nephritis the large white and the contracting white kidney are considered together, and this is convenient, as clinically no hard-and-fast distinction can be drawn between them. The term "cirrhosis of the kidney" is one which, to our mind, has no advantage over the ordinary name "granular kidney"; it is of course used as being the equivalent of fibrosis, but since this is a secondary meaning, it would have been preferable to have avoided a title which, though often suitable to a fibrotic liver, has no special use when applied to the arterio-sclerotic kidney. It is somewhat disappointing not to find more said about the relation of arterio-sclerosis to the kidney changes in the chapter devoted to Cirrhosis of the Kidney. Puerperal nephritis and eclampsia have been made the subject of a useful essay which contains a great deal of valuable information. In the chapter on the retinal changes in Bright's disease there are

some admirable coloured plates from originals by Mr. Stanford Morton, while elsewhere there are excellent microscopic drawings of the morbid changes in the kidney which add considerably to the value of the text. The descriptions of the symptoms and treatment of the various forms of Bright's disease are clear and essentially practical. In conclusion we may say that while this work shows no great originality, and cannot be said to add largely to our knowledge, it is thoroughly sound and well considered and is written in a pleasing and graceful style.

LIBRARY TABLE.

Physician's Book for Private Formulæ. Bristol: John Wright and Co.—This is a useful little waistcoat-pocket book with blank leaves labelled alphabetically after the manner of a "Where is it." At the end are a posological table of the 1898 British Pharmacopœia (in which the strength of the preparations for internal use might with advantage be entered), the English and metric weight and measure systems, and a short account of the treatment of poisoning. It is a nicely bound book of convenient size, well adapted for the purpose for which it is intended.

The Purification of Sewage. By SIDNEY BARWISE, M.D. Lond., M.R.C.S. Eng, D.P.H. London: Crosby Lockwood and Son. 1899. Pp. 150. Price 5*s*.—The question of the best method of the purification of sewage has been placed *sub judice* from the fact that a Royal Commission of inquiry is making a practical investigation into the matter. Dr. Barwise's little book is a useful contribution to the subject and sums up clearly the methods now in vogue and the direction in which recent research has seemed to dictate that we should go in order to solve a problem which has long been the *bête noire* of the sanitary engineer. We welcome the publication of this volume because it contains the views of a writer who is competent to judge and who, moreover, is a disinterested person except so far as the attainment of the most sanitary and economic method of dealing with sewage is concerned. The number of books published on the subject during the last decade has been large, but the majority of them have been written by persons interested in specific processes. Dr. Barwise has gleaned considerable experience on the question of the purification of sewage in the discharge of his duties as the medical officer of health to the Derbyshire County Council. The book records this experience and the author's opinions of the methods thus encountered. It may be said to contain all that need be known on the subject, being unencumbered by lengthy descriptions of a thousand and one chemical methods which now are known to be both unscientific and extravagant. The last chapter is very much to the point in helping to decide what process of purification to adopt under various circumstances of environment. The descriptions are perfectly simple and lucid and a perusal of the short chapters should save the reader who would be acquainted with the recent developments of the subject much time that would otherwise be lost in a useless study of the enormous number of methods of treatment which now belong to the past.

Year-book of Pharmacy, 1898. London: J. & A. Churchill. Pp. 536. Price 10*s*.—This book is a welcome publication because it is usually admirably compiled and gives an excellent review of the work done every year relating to pharmacy, materia medica, and chemistry. Last year the meeting of the British Pharmaceutical Conference was held at Belfast and many important and interesting papers were read and discussed, the proceedings being published at the end of the volume. The year-book represents a considerable amount of work and the committee of publication are to be congratulated on the product. The book really amounts to an annual bibliography of the additions to our knowledge on the wide subjects indicated.

The Girl's Own Paper.—The March part of this magazine contains the thousandth number, with which is issued as a supplement a "portrait gallery" of contributors, including portraits of members of royal families and men and women eminent in literature and science.

The Leisure Hour.—In the March issue of this magazine there is an interesting article on a Visit to Lourdes, and a well-executed reproduction of Mr. W. Q. Orchardson's "Her Mother's Voice."

JOURNALS.

The Journal of Physiology. Edited by M. FOSTER, F.R.S., and J. N. LANGLEY, F.R.S. Vol. xxiii., No. 6. London: J. Clay and Son. 1899. 27 Figures. Price 5*s*.—This number contains four articles and concludes with the proceedings of the Physiological Society. The first article, which occupies the greater part of the number, is by Dr. J. Rose Bradford on the Results following Partial Nephrectomy. This operation, even when two-thirds of the total weight of the kidney have been removed, need not be followed by death, but when more than this is ablated death follows from asthenia. The removal of approximately two-thirds of the total weight of the kidney is followed by a very great increase in the amount of urinary water and also by an increase in the amount of urea excreted and the fragment of kidney left is able to excrete amounts of urea far larger than those usually excreted. The nitrogenous extractives of the tissues are increased. The blood-pressure remains high. The second article is by Dr. W. P. Herringham, who contributes a short article on the Quantitative Analysis of Potassium and Sodium in Urine. The third article is by Dr. William Bain and Dr. Wilfrid Edgecombe on the Physiological Action of Certain Mineral Waters and Baths on the Blood and on the Excretion of Urea and Uric Acid, with a note on the Quantitative Relationship between Uric Acid and Leucocytes. The last paper is by Dr. Archibald Garrod and is devoted to Alkaptonuria, a Simple Method for the Extraction of Homogentisinic Acid from the Urine.

The Journal of Physiology. Vol. xxiii. Supplement. An Account of the Proceedings of the Fourth International Physiological Congress held at Cambridge, England, August 23rd to 26th, 1898. Issued by the Physiological Society of Great Britain and edited by LEONARD HILL, M.B. Lond. Cambridge: at the University Press. 1899. Pp. 74. Figs. 27. Price 6*s*.—In this supplementary number of the *Journal of Physiology* Dr. Leonard Hill has given a *résumé* of each of the 92 communications which were received and read at the Cambridge Congress and of the several exhibits which were made. Amongst the more important of the papers read were those of Mr. E. J. Marey advocating the formation of an international commission for the unification and control of physiological recording instruments. Physiological investigations and researches, it is hoped, will thus be rendered more precise and more easily comparable *inter se*. M. Demoor from his researches on cerebral neurones concludes that the nervous elements are plastic but do not present amœboid movements and from his researches on the brain of a dog holds that in this animal there are two kinds of cortical centres—viz., centres of projection and centres of association. The parietal centre of association is highly developed, that of the frontal region is poorly developed. The observations of Dr. Heger show that the neurones of the cortex of the brain of many different animals present noticeable difference according to whether they have or have not been excited before death. Several communications are made bearing on the circulation, as that of Dr. Leonard Hill on the influence of gravity on the circulation, showing that whilst in eels and the grass snake in which the cerebrum had been destroyed by pithing

the blood gravitates away from the heart on raising them to the vertical position, in the wild rabbit, cat, dog, monkey, and man the power to resist the influence of gravity is very perfectly developed. Dr. W. T. Porter of Boston describes the beat of the isolated mammalian ventricle fed on blood serum alone and showed that even isolated portions of the mammalian ventricle supplied through their nutrient arteries with a small quantity of serum at very low pressure will maintain rhythmical, long-continued, forceful contractions when surrounded by oxygen at high tension. Dr. A. Waller describes the influence of salts upon the electro-mobility of medullated nerve, and states that he found that in the action upon nerve of a salt BA the predominant moiety is B (the basic or electro-positive element)—e.g., any potassium salt is more effective than any sodium salt. Dr. E. Wertheimer and Dr. Lepage give the results of their experiments in exciting the accelerator nerves of the heart and observing the effects of such excitation upon the respiration. Several of the papers read bear testimony to the interest which is taken in physiological chemistry. Thus Mr. A. B. Macmillan of Toronto describes a method for the detection and localisation of Phosphorus in the Tissue Elements; Mr. F. H. Scott gives an account of some points in the Micro-chemistry of Nerve Cells; M. Delezenne gives an account of the Anti-coagulating Substance contained in Peptonised Blood; Dr. S. Fränkel of Vienna gives an account of the Chemistry of Albumin; and Dr. Martin Hahn of Munich deals with the Chemical and Immunising Properties of Plasmine. Another group of papers discusses gland extracts and their action—as, for example, that of M. Livon of Marseilles on the Action of the Extract of the Pituitary Body on the Vagus and of the Extracts of the Adrenals, Spleen, Pancreas, and Thymus on the Blood-pressure, and that of M. G. Moussu of Alfort on the Functions of the Thyroid and Parathyroid Bodies. Several instruments were exhibited at the Congress intended to promote physiological research, such as the sphygmometers of Leonard Hill and Harold Barnard, the autographic balance of J. Fano, the sound or toninductorium of M. H. Kronecker, and the apparatus for demonstrating the movements of the eyeball by Mr. H. P. Bowditch. The editing of the number reflects great credit on Dr. Leonard Hill.

Annales de Gynécologie. February, 1899.—This number contains the following articles: The Gynæcological Instruments of Professor Auguste Reverdin, by Dr. Charles Berthier; a continuation of his paper upon Bacteriological Researches in the Genital Tract of the Female by M. J. Hallé; the Effect of Ligature of the Uterine Arteries upon Hæmorrhages from the Uterus, by Dr. Mangin; a case of Glandular Hypertrophy of the Cervix Uteri of Benign Character simulating a Malignant Tumour, by Dr. de Sinéty; Vagino-abdominal Hysterectomy by Dr. Delagénière; and the usual bibliography.

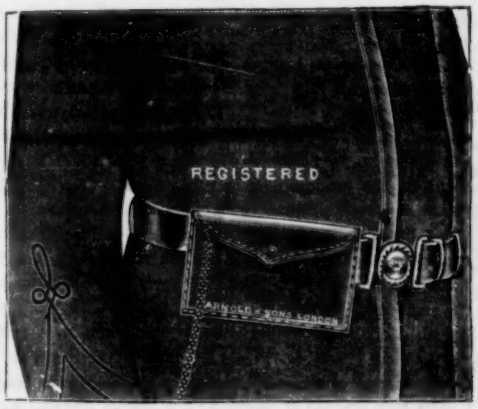
VACCINATION IN TROWBRIDGE UNION.—The returns show that out of 280 births in Trowbridge in 1897 only 16 infants were successfully vaccinated, 97 being unaccounted for, and exemption certificates making up the remainder. In the first half year of 1898 there were 132 births, and of these five infants were vaccinated. In Melksham, of 150 infants born, 29 were vaccinated in 1897, and during the first six months of 1898 only 11 were vaccinated out of 72. At the last meeting of the Wiltshire Standing Joint Committee recently held at Trowbridge the chief constable asked for instructions as to the vaccination of members of the police force. A letter was read from Sir Charles Hobhouse in which he stated that he objected to vaccination being made compulsory in the present state of the law. He suggested that the following question should be put to candidates for the force: "Are you willing to be vaccinated or revaccinated if the police surgeon considers it necessary?" After some discussion a resolution embodying this suggestion was carried unanimously.

New Inventions.

THE MALE NURSE'S WALLET.

"FOR a considerable time," writes Mr. J. H. Parker Wilson, medical officer of Her Majesty's prison at Pentonville, "I have been impressed by the fact that no proper wallet has been placed upon the market for the use of the male nurses in our public institutions, while the wallet which

FIG. 1.

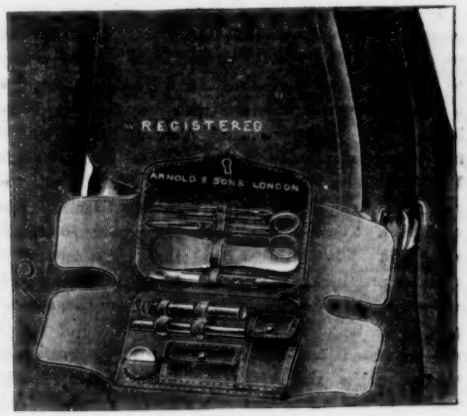


The wallet shut.

I have devised to meet this want would also, in my opinion be of use to the nurses of our naval and military medica service.

"The wallet is so constructed, as will be seen by the above illustrations, that it can be adjusted to any belt by means of two loops. It cannot, therefore, be mislaid or forgotten. The contents are as follows: probe, director, spatula, dressing

FIG. 2.



The wallet open.

forceps, scissors with blunt points, tape measure, thermometer, pencil case, and pouches for pins, litmus paper, &c."

These contents constitute, in our opinion, all the things most necessary to a nurse in the performance of his or her duties, so that we anticipate for Mr. Wilson's useful little wallet ready acceptance by the persons for whose benefit it has been designed. The makers of the wallet are Messrs. Arnold and Sons, West Smithfield.

THE LANCET.

LONDON: SATURDAY, MARCH 11, 1899.

As we intimated in our issue of March 4th the Executive Committee of the General Medical Council met on Monday, Feb. 27th. The published minutes of the Committee give us an insight into the business which occupied the attention of the Committee and is likely more or less to claim the attention of the Council in May. The mere enumeration of the subjects of the Committee's business will show that there is much to excite the interest of members of the profession. The principal questions dealt with were certain memorials on the issue of certificates of proficiency in departments of medicine, surgery, or midwifery; the risks of the employment of unqualified dispensers by registered practitioners; the creation of bacteriological laboratories; inquiries by the Italian Ambassador at the Court of St. James's as to the regulations which in England govern obstetric aid by midwives and the regulations under which Italian practitioners may practise in England; the law in England as to professional secrecy affecting the medical profession; public instruction in England in the subject of vaccination; restoration of names to the Register and the identification of the applicant; the inspection of documents; the President's report relative to increased penal and disciplinary powers; and the case of ROWLAND, the man who personated a registered practitioner named NUGENT, and who is now in prison.

The minutes of the Executive Committee show, as previous minutes have shown, the tendency of certain persons or sections of the public to appeal to the Privy Council to initiate what they consider to be improvements in medical practice or in the laws by which it is regulated. The Privy Council with much promptitude refers such memorials to the General Medical Council. Few things interest the general practitioner more than the employment of assistants for dispensing medicines. The competence of the person so employed has been left hitherto to the discretion of the medical practitioner. The occurrence of a recent fatal case in which by gross ignorance and carelessness on the part of an unqualified assistant a huge dose of morphine was dispensed has led one or two dispensing chemists to memorialise the Privy Council in favour of such a change in the law as will compel practitioners to employ only assistants who have a qualification for their work from some recognised body, such as the Pharmaceutical Society of Great Britain or the London Society of Apothecaries. The Executive Committee referred this subject to the consideration of the General Medical Council, but in the meantime expressed to the Privy Council the opinion that, whilst fearing the sad occurrence of occasional accidents from the employment of careless or incompetent dispensers, such cases are very rare and that probably the best protection is afforded to the public by the responsibility of the practitioner. It cannot be denied that the surgery of the general practitioner is a good school for learning the art of dispensing and that since pupilage to a practitioner has ceased to be obligatory the facilities for learning dispensing have become less. Practitioners will do well to take note that the competence of their dispensers is sure to engage the attention of the General Medical Council and would be well advised to do what is necessary to eliminate the risk of accidents.

The Executive Committee had before it other communications from departments of the Government. One of these was a communication from Sir EDMUND MONSON to Lord SALISBURY transmitting a Bill recently laid before the Chamber of Deputies by a private member for the establishment in every Department in France of laboratories for the conduct of bacteriological researches with a view to the prevention of disease in general and tuberculosis in particular. The Committee expressed approval of the proposed law and of the foundation of similar laboratories in this country. The Executive Committee wisely referred this communication to the meeting of the General Medical Council in May as well as the note from the Italian Ambassador asking for information as to the conditions under which Italian physicians can practise in Great Britain, and in the meantime directed the registrar to inform the Privy Council that the Committee would welcome a recognition of a right by English practitioners to practise in Italy which would enable Her Majesty in Council, under the provisions of Section XVII. of the Medical Act of 1886, to extend similar privileges to Italian practitioners in this country.

The question of the inspection of documents was also before the Executive Committee for consideration and report and the members seem to have arrived at a very sensible and short solution of it, meeting the two requirements which every sensible person recognises—first, the safe care of the documents, and, secondly, the right of every member of the Council to see all its documents. The Committee resolved to recommend to the Council that the Standing Order should run as follows:—

"That all documents of the Medical Council, when not required for use by its legal advisers, be available for inspection by any member of the Council on the following conditions: 1. That a notice in writing of three clear days be given to the Registrar. 2. That the subject of the documents needed for inspection be stated. 3. That the Registrar be held responsible for the safe custody of all documents. 4. That it be an instruction to the Registrar to have the documents so arranged with respect to chronological order and otherwise as to facilitate their inspection. 5. That no documents be removed from the premises of the Council. 6. That all such documents and the information therefrom derived shall be regarded as strictly confidential."

The Executive Committee in these suggestions has clearly expressed the feeling of the Council and of the profession that no impediment should be placed in the way of the study of its documents by members of the Council other than is necessary for their orderly and safe preservation.

We have only space to notice briefly a few other subjects which occupied the time of the Committee. The minutes of the Committee contain a long memorandum drawn up

at the request of the President by Mr. MUIR MACKENZIE on "The Law of the Obligation of Medical Practitioners with Regard to Professional Secrecy." This memorandum, or rather the information which it contains, was requested by the Russian Ambassador in London for the use of his Government. The request was addressed by the Ambassador to the Home Secretary and was transmitted by the latter to the General Medical Council. On the subject of granting illegal certificates of proficiency in medicine, surgery, or midwifery the Committee came to the conclusion that as a Midwives Bill is now before Parliament there was no necessity for any immediate action. The important subject of the President's report relative to increased penal and disciplinary powers came up for discussion when it was plain that there is still much objection on the part of the qualifying bodies to be overcome. The Committee has referred the answers of these bodies to Mr. MUIR MACKENZIE for consideration and report at a future meeting.

THE Report of the Departmental Committee on Prison Dietaries which has just been published is a clear and concise exposition on the subject of prison dietetics. The whole report affords evidence that the question has been thoroughly investigated and that the opinions therein expressed are the result of careful study and mature deliberation. It is a moot point whether the new scheme of dietary which the committee have formulated will meet with general approval, but there can be no doubt whatever that the proposed changes constitute a much-needed improvement on the existing order of things. For our own part, we have never regarded the present system of local prison dietary as satisfactory. Some 20 years ago, shortly after the existing diets were introduced, THE LANCET had occasion to criticise the composition of the various diets and we more expressly pointed out what we regarded as a grave deficiency in the amount of fatty matter contained in the diets. The opinion which we then held has been amply confirmed by the report of the Departmental Committee for, in alluding to the new intermediate dietary, they state—"Such are the changes we have felt constrained to make with the view of improving the intermediate dietary, the principal net result of which will be a decided increase in the fatty elements which are so necessary in a prison dietary." The guiding principles which seem to have animated the committee in the course of their labours may be regarded as eminently sound and sensible. They apparently started with the view that every prisoner should receive the amount of food sufficient to maintain his general health and bodily condition so that on discharge he might be capable of taking up any honest means of livelihood. Having been told in their letter of reference that the main principle to be kept in view was that the ordinary prison diet was not to be regarded as an instrument of punishment, they proceeded to eliminate from the new dietary scale the penal element which undoubtedly is a feature of the lower classes of the existing local prison dietary. At the same time they were alive to the grave dangers which might accrue should the lowest of the proposed diets prove an attraction for the loafer or mendicant, and they so framed that scale (Class A) "that it shall consist of the plainest food, unattractive but good and wholesome, and adequate in amount and kind to maintain health and strength for the single week during which it would be given." On more general grounds they took into consideration the fact that the standard of living amongst the outside population has manifestly improved since the introduction of the present dietary; that during the two decades that have elapsed a marked change for the better has taken place in the general conditions of prison life apart from the dietary; and that an improvement has occurred in workhouse dietaries and in those of pauper lunatics located in county and borough asylums. On these premisses coupled with the tenour of the evidence at their disposal, both official and general, they came to the conclusion that some improvement of prison dietaries was necessary.

Before entering upon a critical analysis of the existing diets and before submitting their proposals regarding the constructive changes which they deem necessary, the committee proceed to criticise in no halting manner the present method of application of the local prison dietary which, on their showing, appears complicated and cumbersome in the extreme. The alterations which they suggest simplify matters greatly and must assuredly tend to facility of administration. The principle of variation of diet with length of sentence they have retained, although in a modified form. They have recommended the almost entire abolition of the system of progressive dietary whereby a prisoner is compelled to graduate through the lower diet immediately preceding that proper to his class. The progressive system is regarded as faulty and to have resulted in loss of weight. They have done away with the distinction between hard-labour diets and non-hard-labour diets in local prisons, which under present conditions seems to be a distinction without a difference, for it appears that a very large proportion of men sentenced to hard labour are exempted from performing the hardest tasks of prison labour by reason of physical defect, age, or infirmity, yet by virtue of the terms of their sentence they receive hard labour diet. Their lot, therefore, compares very favourably with that of men sentenced to imprisonment without hard labour who are presumably guilty of less heinous offences and who are practically placed at the same labour on a lower diet. The question is satisfactorily solved by according to men, women, and juveniles respectively a different diet, the diet for men being larger in quantity than the diet for women and the diet for juveniles being somewhat varied by the addition of certain aliments suited to their constitutional requirements. In discussing the dietary for juveniles the committee make some pertinent remarks on the subject of juvenile criminality which are well worthy of quotation. They state: "We have taken particular interest in the diet of juveniles. Witness after witness advocated the inclusion of milk in their dietary and we agree in the suggestion. The tendency of present day prison administration is to treat the youthful criminal in a reformatory rather than in a punitive sense. We are convinced that a large amount of criminality is due to physical and mental degeneracy, and a regimen designed to insure the physical and mental well-being of the youthful delinquent will prove better for the

individual and in the long run better for the race. Nothing is more adapted to attain this desired end than a liberal dietary combined with physical exercise." This goes to the root of the whole matter; to those who are conversant with the criminal population, the poor physique, the stunted growth, the deformities, disablements, and disease, inherited or acquired, and due to drink, syphilis, scrofula, rickets, &c., must be visibly apparent. In framing the new scales of dietary the committee sought to arrange that the nutritive value of the food for each class of prisoner, both convict and local, should be fairly equivalent to the standards which experience and scientific considerations have indicated as sufficient for each class collectively; they adopted as a suitable standard for comparison the formula laid down by KÖNIG, a recognised authority on the subject of dietaries, as the minimum daily need of food-stuffs for individuals of both sexes and of various ages performing an average day's work. They aimed at evolving round the standard laid down by KÖNIG a series of diets suited to the varying circumstances of the whole prison population.

The existing and proposed dietaries are compared much to the disadvantage of the former. Class I. and Class II. diets were both found inadequate and unsparingly condemned. This is not to be wondered at seeing that physiologically considered they are about equal in nutritive value to the subsistence and rest diets of the authorities as laid down in the standard works on dietetics. Men cannot be expected to perform hard labour and maintain their weight and condition on diets possessing such low nutritive properties. In Class I. diet what has been termed the "sacred stirabout" will be unknown henceforth in English prisons. The investigations of the committee showed conclusively that a large proportion of prisoners lost weight on Class II. diet which is given for one month. They therefore suggested that a new and better diet (Class B) corresponding closely to the present Class III. diet should early be brought into operation in place of the existing Class II., that the duration of its application should be limited to three months, and, further, that a diet (Class C) corresponding to the present Class IV. should be provided for prisoners undergoing longer sentences. The nutritive properties of the new dietary are superior to those of the dietary at present in force; the amount of nitrogenous and fatty matters shows a decided increase everywhere. There is also an increase in carbo-hydrates except in the highest diet (Class C), but this cannot be regarded as a defect as the carbonaceous elements in the present Class IV. are rather in excess. A valuable series of tables setting forth the chemical composition of the proposed diets and comparing them with those at present in force will be found in Appendix II., to which is attached an instructive summary. The dietary for convicts has been increased in quantity and rendered superior in nutritive value as well as more varied in character. One uniform hospital dietary has been introduced for all the prison hospitals both convict and local. The penal system of dietary has been reformed and the terms for which prisoners can be subjected to dietary punishment have been reduced. With regard to food-supplies the whole-meal flour employed for making bread has been severely criticised: it appears to contain more bran than the specifications allow. It is stated to be essential for the well-being of prisoners that the supply of potatoes should be regular and constant, that samples of food-stuffs should be of recent date, and that stores should always be according to sample; that the appliances for the preparation and cooking of the food are capable of improvement; that it is very desirable that cooks, bakers, and millers should undergo a course of systematic training; that the tin utensils used in the service of the food should be replaced by enamel ware; that where land is available the cultivation of fresh vegetables should be encouraged at convict prisons and that they should be freely used in the dietary; and, finally, that the appointment of a well-qualified and competent inspector of food-supplies is necessary.

The whole report shows evidence of careful drafting and it is apparent that the committee spared neither time nor labour in endeavouring to arrive at a definite opinion regarding the important questions submitted to their judgment.

THERE appeared recently a letter from a medical man in the lay press[1] signed "FAIRFAX" and written possibly by Lord FAIRFAX, a medical peer resident in America. This letter was entitled "The Unrestrained Lunatic Danger" and it invited public attention to a real source of danger to the community while touching the fringe of a much larger question, "Why is it that so many lunatics are at large and unrestrained from being a danger to the community?" The answer which "FAIRFAX" gives to this is, though perfectly correct, only a partial one—viz., that it is difficult to get medical men to certify to a patient's insanity and fitness for detention in a public or private asylum because they know that if the patient gets temporarily better and is released he will almost certainly bring an action against them. Concrete instances such as the following are not unknown to practitioners generally and are well known to lunacy practitioners. A woman who became insane and was duly certified and detained in an asylum for treatment recovered and was eventually discharged. In the interval between her detention and discharge she had succeeded to a sum of £2000, which sum she at once started to invest in legal proceedings against the medical man who certified her insanity. This of itself would show that her mind was not well balanced and sound, and in addition the trial at the High Court of Justice and before a jury further showed that the evidence of her insanity was complete. She lost her case. The woman thereupon, to avoid payment of costs, went through the Bankruptcy Court. The medical man who had to incur large legal expenses in his own defence, failing to get "costs" in the action owing to the woman being a pauper as well as a bankrupt, had to sell all that he had saved and "begin again." This is far from being an isolated case. Physicians who have had experience of lunatics know well, and have at times to their regret felt, the unreasoning rancour and vindictiveness of certain types of patients, notably those of the chronic alcoholic, delusional, and so-called monomaniac kinds, who with unceasing and

[1] St. James's Gazette, Feb. 17th, 1899.

persistent hatred will follow and persecute the unhappy practitioner who has had a part in certifying them or in otherwise contributing towards their detention. "FAIRFAX" himself asserts that he has not signed a certificate for many years, though he has often been solicited to do so, and other practitioners frequently refuse their signatures. The consequences are therefore serious, for as the result of general refusals numerous lunatics are now at large from this cause alone. "FAIRFAX" mentions two within his own knowledge and others can be adduced. That this constitutes a real danger to society cannot be questioned. It may happen that in some patients their insanity will assume a homicidal form, in others a suicidal form, and in others a variety of persecutory, violent, litigious, or criminal forms. All are more or less dangerous to the community while but few, excepting the suicidal kind, are dangerous to themselves. Up to 1889 medical men signing lunacy certificates were by law liable if the patient was subsequently found sane by a jury, even though the physician had acted in good faith and with all reasonable care in making his statements and signing the certificate. The consequences were that very few medical men, except specialists, would sign one at all and it became "difficult even in the most obvious cases to get a certificate signed."[2] Since 1889, however, the Act provides[3] that the certifying practitioner shall not be liable to prosecution if he has acted "with good faith and reasonable care." This, however, is a matter that cannot be legally decided beforehand; it is not possible legally to establish before the patient is deprived of his liberty and placed under asylum care that the physician certifying is acting in good faith and with reasonable care. Hence the patient after his recovery and release may bring an action against the certifying practitioner alleging want of such good faith and care with the result that the medical man has to go through legal proceedings before a higher court and has to show to the satisfaction of the court that the charge is groundless and that it cannot be sustained. Further proceedings can then be stayed but only after the practitioner has been put to expense of time, labour, and money in establishing his case to the satisfaction of the court. Thus it comes about that the statute of 1890, though it has in appearance at least rendered the process of certifying less dangerous to the medical man concerned, is still defective in permitting the infliction of annoyance and expense upon him, even though he has closely conformed with its regulations and has done no wrong. Accordingly medical men are chary of certifying—some refuse point-blank ever to certify—and the consequence is that certain lunatics of a dangerous type are allowed to go freely at large and when a crime is committed and it is found to have been the act of such a lunatic there is an outcry in the public press and as likely as not its object is a medical man. Now, the medical man cannot be expected to watch and guard society and to avert such disasters when for his action in so doing he has, owing to the unsatisfactory state of the law, to lay himself open to vexatious, harassing, and costly litigation. He cannot, and ought not to, be required to be at once a dutiful servant of the public and a scapegoat.

[2] Pitt-Lewis, Smith, and Hawke in Lunacy Law for Medical Men, 1890. [3] Vide Lunacy Act, 1890, section 330.

This state of things is surely capable of alteration and improvement; and the recent interview between a deputation representing a joint committee of the British Medical Association and the Medico-Psychological Association and the Lord Chancellor (an account of which will be found in THE LANCET of March 4th, p. 604) points to one possible remedy. Various suggestions are feasible but they should all possess this characteristic—that while the interests of the medical profession are safeguarded the process of depriving an alleged lunatic of his liberty should be in no case open to abuse and should be demonstrably above the reach of briber and corruption. The history of lunatics in asylums during the "fifties" and "sixties" has shown that such abuses did at one time exist. Let a clause, then, be added to the Lunacy Act modifying the provisions of Section 330 in such a way that it would be impossible to bring an action against any certifying medical man except on the ground of bribery, corruption, or conspiracy. If any of these be alleged let a magistrate be empowered after due examination of the case to certify that there is or is not a *primâ-facie* case to go before a higher court; and if the former that the plaintiff should give ample security for costs should he or his advisers insist on taking the case before a higher court. The ends of justice would thus be met, the rights of the medical practitioner as well as of the lunatic would be safeguarded, and needless and vexatious litigation would be avoided. The benefits to the community would be that in a short time the number of dangerous maniacs now roaming at large would be greatly diminished, the guarantees of social security increased, and medical men, who are after all servants of the public, would be unfettered in the discharge of a necessary portion of their duties.

AN obvious and admitted defect in the education of the medical student at the present time is undoubtedly the comparative absence of proper clinical instruction in midwifery. As a rule only the students who have attended the practice of a lying-in institution have full opportunity of seeing the performance of obstetrical operations, while but few have a chance of performing any of these operations themselves. And yet the midwifery forceps has been well termed by BAUDELOCQUE the most important of all surgical instruments and it is undoubtedly the instrument which is most frequently in the hands of the general practitioner. This defect in the practical teaching of midwifery is unfortunately one for which, when the nature of the circumstances is considered, there is little prospect of any remedy being found. It is very unlikely, even supposing that lying-in hospitals were provided and that the general practitioners of the country were not quite able and willing to deal with the general midwifery of the country, that the women of the poorer classes would consent to enter such hospitals; and it is quite certain that if any attempt were made to utilise the material thus obtained for clinical instruction to the same extent as is done in many of the lying-in institutions abroad it would be quite impossible to keep the beds full. We do not wish to imply that there is any special difficulty in the

performance of, at any rate, the simpler obstetrical operations; such a contention would be quite untrue. Any student with an average amount of intelligence and dexterity could be trusted to apply the midwifery forceps for the first time with complete success. It is not so much teaching in the methods of performing the various operations which is required as clinical instruction in the indications for their employment.

The simplest rule which can be laid down for the application of midwifery forceps, and one upon which everyone is agreed, is that the forceps should be employed when their use is attended with less risk to the patient than leaving her alone. Such a rule is a very easy one to enunciate, but the difficulty lies not in its enunciation but in the determination of the various conditions in actual practice in which it will apply. Anyone with a large experience of midwifery practice will know how varying are the circumstances and how varying are the cases in which the application of the forceps is good and correct treatment, and how exceedingly difficult it often is to determine whether the use of the forceps will be attended with greater risk to the mother than the neglect to use them. And yet only too often the young medical man upon first entering practice is called upon to come to such a decision in a difficult case of labour, and the only resources he has to fall back upon to assist him are the theoretical knowledge which he has gained from his text-books and his lectures, and the small amount of practical experience which he has acquired in attending the requisite number of cases of labour, an experience that may not have included a single abnormal case. Little wonder is it, then, that from time to time the young practitioner, yielding perhaps to the importunities of the patient or of her friends, applies the forceps in cases where a man of greater general or special experience would have thought it better to stay his hand.

There can be little doubt that, largely owing to the more extended use of anæsthesia and antiseptics, the midwifery forceps are applied more frequently at the present day than formerly. The question is one of the greatest possible interest to all engaged in midwifery practice and it becomes a matter of great importance to determine whether the increased use of forceps is attended with increased risks to mother and child. If we take into consideration only those cases in which the use of the forceps is clearly indicated and in which no exception can be taken to their employment the answer is certainly in the negative. But various arguments have been brought forward lately to lead us to believe that the abuse of the midwifery forceps is on the increase and that as a result of this the number of cases in which bad results can be directly traced to an improper use of the forceps has been largely augmented. An example which is often cited is the frequency of rupture of the perineum in cases where the forceps have been used. But evidence is accumulating which tends to show that by the use of the axis traction forceps the danger of rupture of the perineum is largely diminished and in fact it appears extremely probable that in a large number of cases by the use of such instruments the perineum can be often saved when it would without their employment inevitably have given way. It is impossible to deny that cases may occur from time to time in which the forceps are used improperly and under such conditions as to increase rather than to lessen the risks to both mother and child. If such an abuse of the instrument exists to any great extent (and we know of no reliable evidence that such is the case), then the cause must be either a want of power on the part of the practitioner to recognise with certainty the special circumstances under which the forceps are indicated or an error of judgment dependent upon an inadequate knowledge of the exact course of normal labour. The number of such mistakes must very largely depend upon the training which the medical man has received as a student and the ultimate blame must therefore be laid upon the shoulders of his teachers or upon the methods of teaching.

Annotations.

"Ne quid nimis."

THE POPE'S RECOVERY.

"PLAIN living and high thinking" have "scored" again and the nonagenarian Pontiff, after an illness followed by an operation which within 24 hours brought 10,000 telegrams of inquiry to the Vatican, has been allowed to leave his bed and, seated in his armchair by the now historic window, to look out on that world from which he has been excluded for more than 21 years. His case in all its incidents and surroundings is a memorable one. Other pontiffs indeed have shown marvellous vitality, though out of the total of 263 16 only have seen their eighty-first year. His immediate predecessor, Pius IX., lived until he was 90 years of age and alone of all the Popes "surpassed the years of Peter" (25) on the papal throne. Clement XI. died in his ninety-third year. Paul IV., elected at 89 years of age, lived four years afterwards; and Gregory IX. died all but a centenarian. But none of these Popes, except Pio Nono for a few years, was a "prisoner," confined to a "palace and a garden," as Leo XIII. has been since February, 1878. They could all leave the Vatican for the Quirinal and both these palaces during the dog-days for Castel Gandolfo, that superb villa overhanging the Alban Lake, well-nigh 2000 feet above sea level. Change of air and change of scene were open to them. But Leo XIII. has never stirred beyond that Mons Vaticanus which retains the insalubrious character given it by Martial. None of them, moreover, in their ninetieth year had to undergo the enucleation of an inflamed cystoid tumour of a quarter of a century's standing, and all this amid the cares of a spiritual empire infinitely greater in number and complexity than the busiest of them ever knew. Of course, in the present case the "personal equation" counts for much. Leo XIII. comes of the ancient stock of the Peccis, mountaineers of the Latian and Neapolitan frontier. From his youth up an indefatigable scholar, he relieved the seclusion of the study with open-air exercise, and during the many years he was Archbishop of Perugia indulged in field-sports mainly with his gun. Then, again, he was happily gifted with the "mens æqua" of his favourite poet, conducing to that even flow of the circulation which is marked by "the pulse of longevity." Over and above this constitutional characteristic he has always had the "will to live," which in the physical sphere is the counterpart of what the greatest of American psychologists has in the religious life called the "will to believe." This effort of volition, conscious or unconscious, is quite compatible, as in Leo's case, with absolute courage in face of

death. Indeed, before and after the operation the Pontiff's cheerfulness almost rose to gaiety, expressing itself in pleasant sallies, doubly pleasant for his consultants to hear. It may or may not be truly stated that he congratulated himself, as a hopeful element in the prognosis, on his "having youth on his side." But he certainly spoke and acted as if he had—as if, indeed, he fully shared Professor Mazzoni's belief that after the operation he had at least as many years in store as would suffice to falsify the words whispered into his ear on coronation: "Non videbis annos Petri." His example adds another to the many instances of patriarchal years attained by hard-working men, professional and other, in whom "mind and soul according well," with a physique unbroken by excess and braced by manly exercise, have resulted in that "old age" immortalised by Wordsworth as "beautiful and free." That poet himself and his official successor, Lord Tennyson, the Duke of Wellington, and the Emperor William I. are typical examples of that serene "sunset of life" which, succeeding its "fitful fever," shed so rich an afterglow on their decline.

CHILD LABOUR AND ITS HYGIENIC ASPECTS.

AT a recent meeting of the London School Board (Feb. 16th, 1899) a report was presented dealing with the results of inquiries relating to those unfortunate little children in London who have to labour out of school hours for a partial livelihood of their families. The material collected and set forth by Mr. Macnamara reveals a state of things generally unknown to the public and one in need of medical and social reform. The report shows that 1143 children work from 19 to 24 hours a week, exclusively of school hours; 729 work from 30 to 39 hours a week; and 285 children work 40 hours or more a week. The occupations include such as newspaper and milk delivery, shop and factory work, errands, greengrocery, domestic work, and various other employments. At the Aldenham-street school, Marylebone, one of the boys works for from 23 to 24 hours a week as an undertaker's help, assisting in the gruesome task of measuring corpses, and receiving 1*s.* a week for his work. Several of the boys work during the afternoon break (of one hour) between school hours. One little lad in Stepney works as a greengrocer's help nearly eight hours every school day (exclusively of school hours), all Saturdays till half an hour past midnight, and three hours on Sunday. The effect of this extra-mural labour is that the victims reach school tired and sleepy and quite unfit for their work. "Probably," says the report, "some die as the direct result of the severity of the toil inflicted upon them during their early years, and certainly many more of them must become a permanent and heavy charge upon the public purse because of the physical incapacity resulting from the rigour of their early experiences." It has been suggested that the London County Council which in another direction controls the employment of child performers on the stage should frame by-laws preventing labour of those under 14 years of age before 8 A.M. or after 8 P.M., in which case a distinct step in advance would be achieved. Dr. Francis Warner who has patiently studied the physique and capacities of board school children in London for many years stated recently[1] that *physical hygiene* should be studied in these children as well as *mental hygiene*, that the capacity for acquiring and assimilating knowledge was at its best when the child was fresh and not suffering from fatigue, and that many school children unfortunately showed more or less brain fatigue as manifested in their want of accuracy and ease in coördinate voluntary movements (which were also fewer), while "uncontrolled movements" were more common in these children, such as finger-twitchings, contraction of the forehead, unequal balance of outstretched arms, with drooping fingers instead of level when in that position, and slower and more inaccurate response to questions, &c. There can be no question of the importance of public attention being drawn to the matter and the London School Board has already taken some action, having resolved to send a letter to the Education Department urging their lordships to call upon the various rural educational authorities to take steps to prevent the illegal employment of children of school age in their districts in labour of various kinds.

[1] Lecture at the Sanitary Institute on the Mental Abilities and Disabilities of Children (February, 1899).

THE ILLNESS OF MR. RUDYARD KIPLING.

MR. RUDYARD KIPLING is now pronounced out of immediate danger. His illness was apparently of a complex type combining the wandering form of broncho-pneumonia with the definite crisis typical of ordinary lobar pneumonia. It has been considered that Mr. Kipling's attack was certainly consecutive to influenza because of the illness of his two little children, but his medical attendants do not seem to share this view. The universality of the interest which has been taken in Mr. Kipling during his illness is a testimony to the wonderful hold which he has taken upon the minds of men. The vigour of his genius, the nobility of his motives, and the dexterous audacity of his literary methods have gained for him a wonderful audience, so that we find the occupant of the throne and the third-form schoolboy, the great poetic artist and the hard-headed merchant, the lettered and the ignorant, alike in their sincere admiration, and we may be sure that they are alike also in their sympathy with him and his wife in the sad death of their eldest-born.

THE NEW FOOD AND DRUGS BILL.

TWO weeks ago we noted with satisfaction that Mr. Walter Long had evidently grasped the need of repeal that was wanted in regard to the present Food and Drugs Act (1875). This at any rate was the impression which he conveyed in his remarks, which almost amounted to promises, made before a deputation which had sought his assurances. But the Bill introduced by Mr. Long into the House of Commons this week would seem to imply that the Government do not mean to deal with the question with that comprehensiveness which it demands. Indeed, it suggests very little at all in the way of repeal of the sections of the present Act. The only reforms which we can pick out from the Bill, a copy of which we have before us, relate to increased fines, to the form of the certificate of analysis, and to a little extra procedure to be observed when a sample is purchased. These are practically all the steps which it is proposed to take as a result of the recommendations of a Select Committee which laboured on the question for four years. There is to be no Board of Reference, no standards are to be set up, no requirements about preservatives are mentioned, and no particular qualifications are to be demanded from the person filling the office of public analyst. We cannot frankly regard the Bill as a Sale of Food and Drugs Bill at all. Of the 23 clauses in it no less than 11 deal with agricultural products, while eight have to do with the sale of food and drugs, and the remaining four are merely supplemental. In the section dealing with food and drugs there are no definitions laid down. If this Bill passes then it seems to us that the labours of the Select Committee may very reasonably be counted as so much wasted time and money. In reality the Bill is a measure dealing mainly with agricultural products and home produce, aiming at the stopping at the ports of entry of the importation of adulterated articles such as butter, cream, and milk. It will appeal, therefore, very strongly to the home producer and thus Mr. Long will probably secure the support of the

agricultural industry. But this is narrowing down what should be a very broad piece of administration. The discussion of the Bill on the second reading is to be continued in the House of Commons this week (Thursday). We must confess that we should learn with satisfaction that the measure was rejected. We understand that an alternative measure is to be introduced by Mr. Kearley. If this measure is drawn up on the plan of the one introduced by that gentleman last year we should like to see it supported on all sides and become, as we believe it could, a workable and a really useful and protective measure.

PUBLIC ABATTOIRS.

IN the *Irish Times* of March 6th is a long and important letter from Dr. C. F. Moore dealing with the question of the supply of a public slaughter-house for Dublin. We have over and over again expressed our views as to the enormous advantages which public abattoirs possess over private establishments in at any rate urban communities, and Dublin seems to be a town where the need of a public abattoir is especially felt. 20 years ago the Royal Commission of 1879 reported that the offensive condition of the foreshore of the River Liffey was most likely largely due to the offensive waste from the slaughter-houses, and still there are over 60 slaughter-houses within the city and there is no authoritative inspection of either meat- or milk-supply. One public abattoir has been built but without the jurisdiction of the city authorities, so that there is no power to compel the butchers to use it. Here in London we are fighting hard for the abolition of the private slaughter-house but we have the London County Council on our side. In Dublin apparently the municipality have neglected not only this but other equally pressing sanitary reforms. Let us hope that the new Local Government Act for Ireland will be the means of bringing about much-needed reforms.

MORBIFIC OYSTERS IN MILAN.

IT was not until the end of 1898, says a writer in *Saluta Pubblica*, that oysters were for the first time inculpated as the diffusers of cholera, the occasion being a small outbreak of that pestilence which took place at Grimsby and which was recorded in a report by the Director-General of Public Health in England, Sir Richard Thorne, but the fact that these molluscs might become the vehicle whereby the germs of typhoid fever could make good an entrance into the human organism had long before been demonstrated with mathematical exactitude by a great many competent observers in various parts of the world. As long ago as 1895 we published an article in THE LANCET[1] in which the incrimination of infectious oysters as carriers of typhoid fever was conclusively established. The fact that the disease could originate thus was therefore perfectly well known among men of intelligence. On this head no doubt was possible, not even the slightest, just as there can be none regarding the contaminating influence of polluted water. Even if bacteriological research had been successful in demonstrating the presence of the typhoid bacillus in oysters the experiment would simply afford confirmatory evidence of what was already known. The failure so far to isolate the bacillus in the mollusc does not by any means disprove its existence there. It merely serves to show the enormous difficulties that attend upon microscopical investigation. Such being the state of the case the chief medical officer of the sanitary office in Milan, in which city typhoid fever has been committing terrible ravages, conceived it to be his duty, as in reality it was, to warn his fellow-citizens that in consuming oysters they were running a great risk of acquiring an extremely troublesome and dangerous malady. But it happens that the oyster industry in Milan is one of considerable magnitude, affording occupation to a large number of persons. At once a loud and bitter outcry arose. The health officer for no cause or reason whatsoever was trying to deprive honest tradespeople of their sole means of gaining a livelihood. He was an ignoramus, moreover, and his outrageous proclamation betrayed him. To accuse the poor, innocent, toothsome oyster of disseminating typhoid germs was a wicked fable flippantly enunciated, but happily the refutation of it was an easy matter. "Spurious scientists" might not be aware of the fact but amongst real men of learning it was well known that the disease could only be caused by a certain microbe, and that this particular species had never yet been discovered between two oyster-shells. An official, highly placed, should be aware of such an elementary truth; it was disgraceful; it was frivolous—and so on. In all lands, civilised or otherwise, the sanitarian is accustomed to misrepresentation and vituperation, but an endeavour to hoist him with his own petard would seem to be a new departure in the gentle art of malediction. Billingsgate has long been renowned, but if this be so the honour and glory of initiating a new form of abuse belongs to the Milanese oystermen.

[1] THE LANCET, Feb. 2nd, 1895, p. 307.

CODRINGTON COLLEGE, BARBADOES.

CODRINGTON COLLEGE is practically the University of the major part of the West Indies. It was founded in 1710 by General Codrington for the purpose of training West Indian youths to enable them to devote themselves to "the Christian ministry in their native islands." The founder endowed the college with two estates, but these estates, owing to the depression in the sugar industry, are now no longer productive enough to support the college. Owing to the craze for cheapness cane sugar has been supplanted by the greatly inferior sugar from the beet, and so Codrington College, like so many other foundations endowed with land, has fallen upon evil times. Unless a minimum of £5000 is obtained by May 1st the college will have to be closed on June 29th. A letter has been sent to the press signed by the Archbishop of Canterbury and others appealing for funds. Subscriptions may be paid into Messrs. Drummond's bank and cheques should be made payable to "The Trustees of Codrington College or Bearer."

PANCREATIC LITHIASIS.

THE *Journal de Médecine Interne* of Feb. 1st contains an important lecture by M. Lancereaux on this little-known subject. Pancreatic lithiasis is one of the commonest affections of the gland but it is much rarer than biliary lithiasis. Including one under his own care, M. Lancereaux has collected 40 cases; there was persistent diabetes in 12. The etiology has received little attention. Atheroma of arteries, hepatic and renal lithiasis, and chronic rheumatism are frequently associated with pancreatic lithiasis. Possibly the same general condition is a predisposing cause of all. The age at which pancreatic lithiasis is observed (from 30 to 60 years) favours this view. Sedentary life and overfeeding are predisposing causes, as they are of biliary lithiasis. Obstruction, by pressure of a tumour, for example, is an exciting cause of both. Calculi are found in all parts of the gland, but especially at the head. Sometimes there is only one, sometimes a number are present; 300 have been found. They are usually free in the ducts but they may be fixed in the gland. They are spherical, ovoid, or cylindrical; rarely they are granular or arborescent. They vary in size from that of the head of a pin to that of a hazel-nut. Lesions of the pancreas may result. The ducts become dilated. Aided by the stasis

microbes enter from the intestine and produce suppuration or gangrene; then there are rigors, fever, and septic symptoms. In other cases sclerosis of the gland and atrophy of the cells result; the pancreatic function fails and a fatal diabetes ensues. Physical signs are rarely found in pancreatic lithiasis. A case is related in which there was an epigastric tumour; this was doubtless a cyst consecutive to dilatation of the canal of Wirsung. The only other sign is the passing of calculi in the stools; the calculi are found by careful sifting and are whitish and composed almost exclusively of carbonate and phosphate of lime. Colic is less frequently produced than in the case of biliary calculi in consequence of the feeble contractility of the canal of Wirsung. The habitual seat of the pains is between the umbilicus and the epigastrium, often at the left costal margin; they radiate along the costal arches to the spine; they are acute but not so intense as those of hepatic colic; and like the latter they are accompanied by anorexia, rigors, cold sweats, nausea, and vomiting. With each crisis occur certain still more important symptoms—glycosuria, fat in the stools, and sometimes, though rarely, in the urine; there are also polyuria, polydipsia, and polyphagia. In fact, there is complete but temporary diabetes, due no doubt to inhibition of the pancreatic secretion analogous to the inhibition observed when one ureter is obstructed by a calculus. Intestinal hæmorrhages have been noted in three cases and passing jaundice in three others. Colic occurs at the beginning of the lithiasis. Later, when the pancreas is profoundly altered, what M. Lancereaux calls "diabète maigre" sets in. The duration of pancreatic lithiasis is variable—days, weeks, a year, several years; the prognosis, too, is variable. If the calculus is passed into the intestine by the duct or by ulceration recovery is possible, but if the duct remains obstructed suppuration, gangrene, and death from septic infection, or sclerosis and atrophy, and death from diabetes, are to be feared. The calculus has passed into the abdominal cavity with fatal hæmorrhage in one case and with peritonitis, almost always fatal, in several. Pancreatic colic is to be distinguished from gastric cramp. The pain in the former radiates from the pit of the stomach and in the latter from a little above the umbilicus; it is distinguished from biliary colic by the (usual) absence of jaundice. If in a case of diabetes with wasting there is a history of pancreatic colic the origin of the diabetes in pancreatic calculus is probable. Prophylaxis as in biliary lithiasis consists in exercise, stimulation of the skin by cold douches, and regulation of the diet. Morphia is to be used to relieve pain.

THE DEATH SENTENCE AND CRIMINAL ABORTION.

MR. JUSTICE DARLING on Monday last in charging the grand jury at Chester Assizes referred at length to the case of William Upton who is alleged to have killed a woman named Mary Murray at Macclesfield by means of an illegal operation. The learned judge referred to the notorious cases which have recently been tried and pointed out that where the death sentence had been pronounced everybody in court knew that it would not be carried out. Such a state of the law, he considered, put judges in an undignified and absurd position. It was not well that the highest penalty which man had it in his power to inflict should be gravely decreed against criminals with the full knowledge that the whole proceeding was nothing but a sham from the beginning. He advised the jury upon his own initiative and until some consensus of opinion had been arrived at in the matter not to return a true bill for murder if they thought that the wound though inflicted for an unlawful purpose was not intended to kill and only to find a true bill for murder when it was intended to kill the woman, or at any rate when those who performed the operation did not care if the woman died or not. The grand jury adopted Mr. Justice Darling's suggestion when they came to deal with the matter and we are glad that they did so, for his lordship's advice runs with our own expressed opinion that the Treasury (the almost inevitable prosecutor) should always indict for manslaughter only—unless of course suspicion is present that a deliberate attempt has been made to take life by a uterine wound.

THE HEALTH OF THE PORT OF LONDON.

DR. COLLINGRIDGE'S half-yearly report on the work of the Sanitary Authority of the Port of London shows that in many respects there has been great improvement and that a higher standard of sanitation is gradually becoming possible. The report states that during the half year under notice 16,127 vessels were inspected, a larger number than in any previous half year since the formation of the authority in 1872. Of the total number of ships visited 82·37 per cent. were under the British flag, while of the Scandinavian ships, the next highest in order, 8·89 per cent. were visited. The medical inspection of vessels on arrival at Gravesend is still carried on satisfactorily in conjunction with Her Majesty's Customs and in this way 5456 vessels from foreign ports were examined. Detailed notes are given of the cases of plague which occurred on vessels entering London from Eastern ports. Two inspectors have been specially appointed for the work of inspecting food. It is mentioned that the imports of mutton into London from all parts have increased from 400 carcasses in 1880 to nearly 4,500,000 in 1898 and the fact is noticed that the condition of frozen meat on arrival is gradually improving.

THE MEDICO-PSYCHOLOGICAL ASSOCIATION AND HABITUAL INEBRIATES.

WE have before us in a separate form the Presidential Address of Dr. A. R. Urquhart to the Medico-Psychological Association of Great Britain and Ireland in July last on the occasion of its annual meeting in Edinburgh and find in it not only ample vindication of the work and purposes of this Association, but sundry criticisms on current questions which are worth reverting to. The growth of the Association is shown by the increase of 124 in the membership as compared with the numbers 10 years before. Dr. Urquhart referred with much confidence and satisfaction to the Laboratory of the Scotch Asylums started by Dr. Clouston and aided by the Edinburgh College of Physicians as having been already of distinct service and promising much usefulness in the future in the way of favouring research in all that affects insanity. Dr. Urquhart suggests that the answer to the question—Is insanity on the increase? should be in an indication of all the means by which such increase may be mitigated. He magnified the work of Conolly and showed how the points for which he fought and pleaded in his address to the Association in Edinburgh in 1858 had been practically gained. Dr. Urquhart lamented the absence of legislation for increasing the number of Commissioners in Lunacy, the present number being the same as when the Commissioners were first created to control a number of insane only one-fifth of those now to be cared for. He deprecated all legislation that tended to make the asylum physician a mere official and which opposed freedom of initiative and the range of personal responsibility in the medical superintendent. His remarks on the Inebriates Bill were interesting. He accepts it as a great advance on the Act of 1879 but considers it as a mere instalment. He cannot regard the responsibility of the State

towards the victims of drunkenness as discharged by a provision only for those who come under police notice. He has had in 18 years in Murray's Asylum 85 habitual drunkards under his care not half a dozen of whom would have been affected by the provisions of the Act of 1898. His remarks on drunkenness and the nature of the institutions in which it needs to be treated are full of suggestion. He would not wait for "its terminal dementia" but would largely employ early means for frustrating habits of vice or disease. He gently reminds the Association that it has not done all the good on this subject or given all the attention to it which it might have done. We can only hope that future presidents and members will take the hint and give some scientific turn to legislation and work for the benefit of that large proportion of drunkards who are not reached by any legislation at present but are left, to use Dr. Urquhart's words, "to stagger on their way to perdition" often dragging their families in their train.

THE DEATH OF THE REV. DR. BOYD.

ONCE again a valued life has been lost from poisoning through the plan of keeping bottles containing virulent lotions with bottles containing medicines for internal use in such a way that the two remedies are liable to be mistaken for each other. The Rev. Dr. Boyd, popularly known as a writer above the initials "A. K. H. B.," was in the habit of taking sleeping draughts and used also a carbolic acid lotion. The bottles containing these remedies were kept in the same place and in coverings closely resembling each other. The evidence at the inquest showed that the unfortunate gentleman met his death by drinking the corrosive lotion instead of the sedative draught, the mistake probably arising from his omission to remove the wrapper. Accidents of this kind take place in spite of the many contrivances which have been suggested to prevent them. In our columns from time to time we record the invention of new bottles to contain poisons—bottles of various distinguishing shapes, bottles with sonorous "alarms" attached to them, bottles with impediments to their outflow; but such devices, while serving as checks to error sometimes in a very ingenious manner, do not take the place of human intelligence. The catastrophe usually occurs in the case of chronic invalids and when the process of administering the medicine has become an habitual and almost a mechanical one. Care, constant care, is the only talisman which will prevent such accidents, and every medical practitioner should impress this fact upon his patient as well as upon his patient's friends, especially when from the nature of the case a poisonous remedy is likely to be in long use.

THE VICEROY OF INDIA ON MEDICAL SCIENCE.

THE *Times* correspondent in Calcutta telegraphs to that paper a long account of Lord Curzon's speech made at the annual meeting of Lady Dufferin's Fund, held on March 3rd, in which his Excellency is reported to have used the following words:—

"Now I come to the last boon of science, and medical science in particular. About this no two opinions can possibly be entertained. There may be prejudices and scruples arising from long custom, ignorance, or other causes, but doubts there cannot possibly be, and I say this, that if we had come back to you from the West with our medicine in our hand, and with that alone, we should have been justified in our return. For what is this medical science we bring you? It is no mere collection of pragmatical experimental rules. It is built on the bed-rock of pure, irrefutable science; it is a boon which is offered to all, rich and poor, Hindu and Mahomedan, woman and man. It lifts the *purdah* without irreverence. So far as I know it is the only dissolvent which breaks down the barriers of caste without sacrilege. Medical science, indeed, is the most cosmopolitan of all sciences, because it embraces in its merciful appeal every suffering human being in the world."

Lord Curzon's words will be a cause of great pleasure to the profession upon which he has bestowed this eloquent panegyric. Above all things, medicine desires to know no artificial limitations to its scope. To all religions and castes, to all races, and to all social grades alike it offers such assistance as in the present state of the world's knowledge is in its power, the only claims upon it that are recognised being those of disease. We thank Lord Curzon for his public and graceful expression of this view, particularly as there are circumstances now occurring in our Indian Empire which make such expression of unusual significance.

THE DANGERS OF THE KINEMATOGRAPH

NEARLY two years ago we pointed out the desirability of placing kinematographic demonstrations under rigid inspection and control on account of the exceedingly inflammable and almost explosive nature of the celluloid films employed in the apparatus. We said "the danger is no imaginary one," and a recent occurrence at a theatre in Hammersmith fully confirms this statement. Fortunately, however, it was only a rehearsal that was going on. An electrician in charge of the apparatus was terribly burnt, while another person luckily escaped injury although his clothes were burnt. It is stated that suddenly something went wrong with the film and immediately flames shot up, followed by a loud explosion which resulted in the complete destruction of the kinematograph celluloid roll. The combustion appears to have been actuated by a defect in the electric wires. The occurrence shows how easily a panic in a "full house" could be started with the extreme probability of shocking sequelæ. We believe that the London County Council take steps to insure the safe working as far as possible of this apparatus by regular inspection. We trust that they and all other similar authorities in the country will not relax their action one iota in this matter, for the kinematograph as a source of amusement and, we may add, of instruction is being very largely employed in crowded places of public resort. It is imperative, therefore, as we have said before, that some action should be taken to provide as far as possible for the safety of the great numbers of those watching this kind of entertainment.

PERFORATIVE PERITONITIS.

MR. CHARTERS J. SYMONDS recently delivered a most interesting address before the Hunterian Society on the Individual Value of the Symptoms in Perforative Peritonitis, more especially as Regards Operation. Abdominal surgery has made huge advances during the last few years. Physicians when confronted with evidences of acute peritonitis are becoming more and more convinced of the value of obtaining a surgical opinion, for they fully recognise that an early operation has been the means of saving numerous lives, whilst even if an error has been made in diagnosis (and the diagnosis of such cases is attended with countless difficulties) such an operation is rarely productive of permanent harm. Mr. Symonds considered in detail the various symptoms met with in perforative peritonitis. Dealing first with pain he stated that if this symptom occurred at the onset of the illness it was no doubt an indication of severity, allowance being made for the difference in the ability of patients to bear pain (very often an anxious question for the physician). When the pain is limited to the right iliac fossa its value as to the seat of trouble is obvious. The lecturer was also of opinion that when the pain is continuous and distinguished from mere tenderness, and when pain recurs after a period of

repose, an operation is indicated, and he insisted on the absolute necessity of not obscuring this valuable sign by the continuous use of sedatives. General abdominal distension and immobility are two of the most important symptoms. In all cases the general distension which does not yield to a tube (or turpentine enema) on the second or third day indicates progressive disease and the case will probably require operation. When a perforating gastric ulcer is suspected there may be no distension for from 12 to 24 hours, at which period it is a serious symptom. In appendix cases, Mr. Symonds said, general distension without localised tumour, without dulness, but with pain and tenderness, has a grave significance; if with the points just mentioned the temperature is continuously raised the case is still more grave and may call for immediate operation even 48 hours after the onset. After referring to other symptoms which might be noticed after general distension has subsided or yielded to the flatus-tube or an enema the value of vomiting as a symptom was commented on. Whilst it always accompanies the onset of perforation it may be, and often is, absent in cases of gangrenous appendicitis. As a symptom of onset it indicates severity or suddenness and is present in most cases which run a favourable course. If it recurs after careful feeding, rest, and a sedative it becomes an alarming symptom and as a rule the case demands immediate surgical interference. Of all the symptoms it may as a single one be most relied upon. Mr. Symonds further observed that if vomiting be an important symptom its absence has a significance equally great; in fact, he would be disposed to say that the absence of vomiting causes more anxiety when the question of operation is raised than its presence. We must not, however, wait for this sign; if we do the only opportunity for operation may be lost. We must remember that strict abstention from stomach feeding retards for a time its occurrence and when vomiting does recur under careful treatment the end is probably near. Passing on to the important question of temperature Mr. Symonds quoted cases illustrating the fact that temperature and pulse may steadily fall while dangerous septic processes are advancing, and therefore the absence of pyrexia at the time when we are called to decide the question must be discounted in the face of a reliable history of onset, of early fever, and the fact that the patient is not decidedly better after from four to six days from the onset. Mr. Symonds had many interesting and instructive remarks to make as regards the "period of repose" and the "general condition" of the patient, the first named being especially characteristic of the cases under discussion. He is to be congratulated on having succeeded in conveying so much information in one lecture.

INFLUENZA.

INFLUENZA still continues to strain the powers of medical men and to disable more or less a large proportion of their patients without respect of persons. Statesmen, diplomatists, writers, masters, servants, nonagenarians, and infants are attacked with splendid impartiality. To do the present epidemic justice it does not generally deal so severely with its victims as in the past, and though the number of deaths is still considerable the mortality is much less than on several previous occasions, especially when we consider that winter cold has been in operation, assisted by fogs, for a fortnight past. Most of the cases continue to be of the nature of a febricula, the rise of temperature being sharp and its duration short, with or without catarrh. The pains vary much, but are often eloquently described as severe by patients who do not exaggerate their sufferings. One patient will say that "it feels as if his legs were broken in 20 places," another "as if her back were broken in two." In some cases the pyrexia extends over a week, in others over many weeks, in many of the latter consolidation of the apex of the lung, which gradually abates, being present. Though the profession is sometimes bantered on the subject it continues to be much consulted, and there is no doubt that the longer the attack is ignored the longer will be the duration and the more severe the consequences. The wiser members of the public perceive that if the knowledge of medical men is incomplete there is danger in neglecting to seek their services. People talk as if this were a new experience altogether, but it is not so. The letters of Disraeli written about the year 1837 show a similar state of matters with much damage to the plans and convenience of public men.

THE REMOVAL OF ADENOIDS IN INFANCY.

FORTUNATELY post-nasal adenoids when they are present in young infants do not commonly give rise to troublesome symptoms. There are exceptions to this rule, however, and one such is quoted by the *Journal de Clinique et de Thérapeutique Infantiles* of Feb. 23rd. In this case the child was aged four months. He had suffered at birth from purulent ophthalmia, a fact which may partially explain the urgency of his adenoid disorder. During sleep his breathing was so difficult that Dr. Thomas who has reported the case found himself obliged to resort to surgical treatment for its relief. The result was successful. The mode of procedure adopted is interesting as bearing upon the performance of an operation requiring some delicacy of manipulation. As was to be expected, a small, specially constructed forceps was employed and a piece of vegetation was detached by a single effort, no more being done on each occasion. The process was repeated at intervals of a week and after three sittings the naso-pharynx was clear. In order to avoid injuring the vomer—the chief danger to be guarded against—particular care was taken to direct the forceps upward and backward. In most cases of adenoid overgrowth in infancy medical treatment happily suffices to relieve symptoms and postpone the need of operation. Dr. Thomas's experience is suggestive in connexion with those rare cases which call for active surgical measures as proving what may be accomplished by patience, tact, and gentleness.

THE NEW SCHOOL BUILDINGS OF MIDDLESEX HOSPITAL.

SIR CHARLES BELL in 1836 wrote: "We have founded a school in the garden of the Middlesex Hospital. The building will be a complete little thing. ..... You cannot imagine a prettier thing than that school." What would he say if he could see the new buildings of the school to which his name did so much honour? These consist of two blocks, one facing the hospital garden and the other facing Union-street. On the ground-floor of the first block a vestibule leads into a room for instruction in public health and a room for the official work of the school, while it also opens into the large lecture-room and the museum. From this vestibule another door opens into a series of rooms for chemistry; a large laboratory, a lecture-room, and a private room for demonstrators or lecturers beyond. The laboratory (for organic and inorganic chemistry and for sanitation work) will accommodate 35 students; the lecture-room will hold 50. On the first-floor are the pathological rooms; a very large laboratory for general practical work and for lectures, a bacteriological laboratory for advanced or research work, and the pathologist's private room; beyond this a suite of rooms communicates with the post-mortem room. The mezzanine floor contains the anatomist's room and a dark room for photographic work. The anatomical rooms,

three in number, are in the basement and are connected by an electric lift with the dissecting room on the top floor. The dissecting room, 75 feet long, is warmed with hot water, ventilated with electric fans, and lit from above and also by moveable pendants of electric light. The floor is of terrazza stone, the tables are of glass, and the walls are panelled with slate for diagrams. On the same floor are the demonstrator's private room and a large room for the practice of operative surgery. The Union-street building is given over to physiology. On the ground-floor are three rooms, one for making quantitative analyses, another for independent work, and a third large room for general class purposes. On the first floor there is a very large room for practical work and the physiologist's private room, containing a small dynamo, whence a shaft will run the whole length of the workroom, supplying motor power to revolving cylinders. Briefly, it would be difficult to devise a better set of buildings for their purpose. Every detail has been thought out, every latest improvement has been added to make them as perfect as possible. It may be mentioned that in connexion with the inauguration of the new buildings Dr. Frederic Hetley, J.P., D.L., a former student, has generously contributed the sum of £1000 to perpetuate the "Hetley Clinical Prize" of £25 per annum founded in 1884.

EARLY DIAGNOSIS OF CANCER OF THE LUNG BY MICROSCOPICAL EXAMINATION OF THE SPUTUM.

AT the meeting of the Société Médicale des Hôpitaux on Jan. 13th M. Paul Claisse called attention to this means of diagnosis. A man, aged 50 years, habitually in excellent health, began to waste. One day he expectorated two little greyish-white fragments almost of the size of a cherry-stone and with irregular surfaces. Examination of a section showed epithelial tissue composed of unequal elements, in places cubical, in others arranged concentrically like epidermic nodules. It was concluded that the fragment was of pulmonary origin and epitheliomatous. At this time no signs of disease could be found in the lungs. After several weeks the diagnosis was confirmed, in particular by the appearance of currant-jelly expectoration. In a second case in which the diagnosis was already certain the fragments were too small or too necrosed for thorough examination, but their presence at least showed that they belonged to a pathological tissue. M. Claisse pointed out that without systematic search the fragments might escape observation and be mistaken for inflammatory or alimentary products. As the diagnosis of pulmonary cancer is often difficult at the beginning this means of diagnosis is valuable.

HETEROCHROMOUS EYES.

"IN a family I am attending," writes a correspondent, "there are three children. In the eldest and youngest (who are boys) the right eye is hazel and the left eye blue. In the second child (who is a girl) the right eye is blue and the left hazel. The father has blue eyes and the mother has hazel eyes." The condition recorded is uncommon but not extremely rare. Two forms of heterochromia are recognised by ophthalmologists—one, in which one eye only is particoloured, a segment of the iris being of one colour and the remainder of another colour, a condition named "heterochromia unilateralis"; the other, in which as in this case the iris of one eye is different in colour from that of the other, named "heterochromia bilateralis." The dark colour of the iris in the southern nations and in the yellow races, as in the Chinese, is due to pigment in the superficial cells and in the cells of the stroma. The blue iris chiefly observed in the northern nations is due to the absence of pigment. Very dark irides are seen in the descendants of the Jutes in the Isle of Wight and, according to MM. Truc and Vallude, in Bristol and in Hainault in Belgium, whilst the blue iris is not unfrequent in Upper Italy, amongst the Basques, and even exceptionally in Morocco and Tunis. In France Topinard recognises two zones, the north-east with light-coloured or blue irides, and the south-west with brown eyes. It is not correct to say that all infants' eyes are grey at birth. We have seen them of a very dark colour. It has been thought that eyes presenting a difference in colour in their irides are not perfectly developed and that any operation upon them should be undertaken with some hesitation and reserve, but it does not appear that there are any statistics bearing upon the question. The influence of heredity on the colour of the eyes has been shown to be marked. When both parents have blue eyes, or both parents dark eyes, about 95 per cent. of the offspring have irides of corresponding colour, but when one parent has blue and the other dark irides the number of dark and light irides in the children is about equal.

SCHOOL EDUCATION AND NEEDLESS INJURY TO CHILDREN.

WE have received a copy of an address on the above subject delivered by Dr. Clement Dukes before the meeting of headmasters held in London on Jan. 13th and 14th of the present year. It is a powerful indictment of the abominable cast-iron system of present education. It is not the great public schools such as Westminster, Winchester, and Eton which are so much at fault as Board schools and so-called voluntary schools. "This," says Dr. Dukes, "is what prevails. In the 'infant schools' where the ages range from three to seven years the morning hours of work occupy from nine to 12 with a break of a quarter of an hour; and the afternoon lessons from two to four. ..... Children of three years of age are kept at lessons indoors five hours a day for five days a week." Attendance is not compulsory before the age of five years, but yet "schoolroom and teacher are provided ..... and attendance is courted for the sake of the Government grant." We have no hesitation in saying that the system is extravagant, cruel, inefficient, and hurtful to the health of the coming generation. In addition, far too many subjects are taught. Years ago Kingsley wrote as follows concerning the turnip in the Examination Island: "Can you tell me anything at all about anything you like?" "About what?" says Tom. "About anything you like, for as fast as I learn things I forget them again, so my mamma says that my intellect is not adapted for methodic science and says that I must go in for general information." We commend this passage to the Education Department.

LARGE FRAGMENTS OF AN EPITHELIOMA OF THE STOMACH EXPELLED BY VOMITING.

THE size of the fragments expelled in the following case, related by M. Mathieu at a recent meeting of the Société Médicale des Hôpitaux, is remarkable. Microscopic examination often enables the diagnosis of cancer of the stomach to be made by the detection of epitheliomatous structure; more rarely fragments are recognisable by the naked eye. A man, aged 58 years, had increasing dyspeptic symptoms for six months. Appetite disappeared and he lost 30 lb. in weight. He had acute pains in the pit of the stomach and abundant vomiting. In the vomited matter the food taken on the previous day or on the day before that was recognised. The vomiting had ceased for six or seven weeks when with a small quantity of the gastric contents he expelled some hard masses. On examination a rounded tumour was found a little below the xiphoid cartilage. The fragments after lying eight days in alcohol consisted of three whitish-yellow

masses marbled with reddish purple from infiltrated blood. They were elastic and had a fibrous structure. They showed traces of rupture and where entire little mammillated projections. The largest fragment was two inches in length and a third of an inch in diameter. It had the appearance of an adenomatous or epitheliomatous vegetation torn away at the hilum. The three fragments together weighed two drachms. Microscopic examination showed areolæ separated by connective tissue and lined with cylindrical epithelium—in short, almost the structure of a polyadenoma or cylindrical epithelioma. As the patient had for some time vomiting denoting dilatation of the stomach with stasis, and as this vomiting disappeared, the question arose, Might not the separation of such vegetations have caused disappearance of the stenosis of the pyloric orifice? In analogous conditions signs of pyloric insufficiency have been seen to succeed those of stenosis. A somewhat similar case was reported by Dr. W. O'Neill in THE LANCET of Oct. 3rd, 1896, in which the weight of v mited cancerous tissue was between eight and 10 ounces.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

AT the annual general meeting of the society held on March 1st, the President, Mr. Thomas Bryant, being in the chair, the report of the council, showing a satisfactory financial position, was presented. The unusually large number of 35 new Fellows had joined the society. The President delivered the annual address and according to custom gave short biographies of those Fellows who had died during the year, dwelling with especial fulness on the careers of Sir Richard Quain, Dr. Charles West, Mr. Henry Lee, Sir William Jenner, Dr. C. J. Hare, and Professor Kanthack, and a hearty vote of thanks was awarded to him. A cordial vote of thanks was also given to Dr. Norman Moore who is retiring from the post of honorary secretary, after having held it for three years. The following gentlemen were elected to hold office for the ensuing year:—President: Mr. Thomas Bryant. Vice-Presidents: Dr. George Fielding Blandford, Dr. Samuel Jones Gee, Mr. Henry Greenway Howse, and Mr. Reginald Harrison. Honorary Treasurers: Dr. William Selby Church and Mr. J. Warrington Haward. Honorary Secretaries: Dr. Thomas Barlow and Mr. Alfred Pearce Gould. Honorary Librarians: Dr. Norman Moore and Mr. Rickman J. Godlee. Members of Council: Dr. Francis Henry Champneys, Dr. Stephen Mackenzie, Dr. Seymour John Sharkey, Dr. Eustace Smith, Dr. Francis Warner, Mr. W. Bruce Clarke, Mr. George Henry Makins, Mr. Robert William Parker, Professor Edward Albert Schäfer, F.R.S., and Mr. Edgcombe Venning.

PLAGUE IN MADAGASCAR.

THE circumstances of the occurrence of plague in Madagascar are described in much detail in a first report compiled by Dr. Lidin, presented to the Governor-General, and published in the *Journal Officiel de Madagascar et Dépendances* of date Jan. 10th, where it occupies a space exceeding five pages of THE LANCET. Dr. Lidin, who is principal medical officer with the army of occupation, states that on Nov. 23rd, 1898, the Administrator of Tamatave was informed by Dr. Chevreau (a civilian practitioner) that several suspicious deaths had taken place among natives employed by his European patients. Next morning Dr. Sallebert of the military hospital, after an examination of patients and of some dead bodies, pronounced them to be cases of plague and on Nov. 26th Dr. Clouard found the plague bacillus in abundance. Quarantine was immediately established. Tamatave is a seaport; the habits of the population who number about 7000 are extremely insanitary. Evidently the disease had existed for some time before it was recognised by Dr. Chevreau; Dr. Lidin considers that its origin must be dated back for six weeks at least, but perhaps not much more, and that it was imported by means of bags of rice brought from India. Infection from one person to another was at first not well marked, for it often happened that a death in a cottage occupied by several persons was not followed by other cases among the survivors; after a time, however, attacks occurred the origin of which could not be traced and the disease became generalised. From Nov. 24th to Dec. 14th there were 114 cases discovered, including only three Europeans, and during the same period there were 73 deaths. The European patients were a lady who gave birth to a child during her illness, a sailor in indifferent health, and an elderly German governess. The last died, the two others recovered. Other parts of the *Journal* give the later information that on Jan. 6th there were three fresh cases with three deaths, and on Jan. 7th six fresh cases with six deaths. On Dec. 31st the Governor-General issued an order directing that all possible steps should be taken to destroy rats and mice by trapping them or by laying down phosphorus, arsenic, or strychnia mixed with breadcrumbs, meat, cheese, or fried bacon. Fleas also were to be destroyed by watering the floors with boiling water or solution of corrosive sublimate, or by applying wax mixed with petroleum. Personal cleanliness and general hygienic measures were also specially enjoined.

PARALYSIS FOLLOWING CEREBRO-SPINAL MENINGITIS.

IN the *Boston Medical and Surgical Journal* of Feb. 16th Dr. W. N. Bullard calls attention to certain forms of paralysis occurring during cerebro-spinal meningitis and persisting after the acute stage of the disease. They differ from the ordinary forms and do not entirely correspond to other forms which are described. All the cases occurred in children. In certain stages they resembled cases of anterior poliomyelitis, but they differed in the following respects. Pain on passive movements persisted to a degree rarely if ever found in anterior poliomyelitis. Such pain and tenderness may exist during the acute stage of the latter for two or three days, but if it lasts longer than a week the diagnosis is to be questioned. On the other hand, not uncommonly in cerebro-spinal meningitis great pain on passive movement, especially of the ankles, may exist two or more months after the acute stage. Tenderness of the muscles also persists longer. There is always a tendency to spastic contracture. The knee-jerk on the whole is less affected, but it may be abolished. In addition to these signs the history of the attack is a guide.

THE ROYAL MEDICAL BENEVOLENT COLLEGE, EPSOM.

BOTH the educational and benevolent sides of the work that is carried on at Epsom College have always received from us our best support, for we not only know the measure of good that is done but we realise the enormous extent of the good which might be done if anything like adequate assistance or the assistance that might be expected were received from the medical profession and the public. To add in some way, however small, to the success of the Royal Medical Benevolent College at Epsom is, in our opinion, something like a duty incumbent upon every medical man. Those to whom the act of contributing is no burden should give freely for the good of their poorer brethren and these should give what they can. No man can certainly foresee and guard against all the insidious attacks of misfortune or gauge how soon those near and dear to him and dependent upon him may need the helping hand which this institution extends to both widow and children. We feel sure that the lack of support of the College by

medical men as a whole, which we have often had to deplore, is not due to apathy alone but partly to the fact that the profession realises neither the good which the College already does nor its potentialities for better things if it were adequately supported. If medical men appreciated the work at Epsom at its proper worth they would support the College more generously themselves and would take advantage of their many opportunities of bring to the notice of their wealthy patients the claims which the institution has upon the public. As a correspondent in another column pertinently asks: "How many practitioners sacrifice their lives in the service of the public before they have had time to save?" If laymen understood how large this number is we do not believe they would be slow in their attempts to repay their benefactors. Dr. Holman, the honorary treasurer, is asking for aid in collecting the £6000 which he has to find each year for the Council to spend on the aged pensioners and foundation scholars. "If each member of the medical profession," to use the words of a former appeal, "would send 10*s.* to the hon. treasurer or even 5*s.* a year for a few years the position of the pensioners and foundation scholars would be placed on a secure financial basis and the council would be able to improve the school and extend its useful influence still more." Who among the poorest in our profession could not give just a trifle, and how many are there who would miss 10*s.* or even more?

DR. W. H. CORFIELD, medical officer of health of St. George's, Hanover-square, has written to his vestry pointing out that while for several years (with the exception of 1897) there have been more cases of enteric fever in the parish per month during November and December than during the preceding three months, and while this disease has been unusually prevalent and fatal in London during the last three months, November, December, and January are not the months for the "seasonal prevalence" of this disease. Dr. Corfield thinks, therefore, that some other cause for the excess of it must be sought for and it may be something more than a coincidence that in those very months London is supplied with water which, according to Sir Edward Frankland's report, contains "an excess of organic matter."

THE next examination for the certificates in nursing and attending on the insane issued under the auspices of the Medico-Psychological Association of Great Britain and Ireland will be held on Monday, May 1st, 1899. Candidates should obtain from the Registrar (Dr. Spence, Burntwood Asylum, near Lichfield) a schedule, to be filled up, signed, and returned to him at least four weeks before the date of the examination. Monday, April 3rd, will be the last day upon which, according to the rules, candidates can enter their names for the May examination.

WE have again to congratulate University College, Liverpool, upon noble accessions to its funds. At a complimentary banquet at the town-hall to Professor Oliver Lodge, in recognition of his having received the Rumford medal of the Royal Society for 1898, Principal Glazebrook was able to announce donations of over £15,000 towards the estimated sum of £30,000 required to equip a proper physical laboratory for Professor Lodge.

THE Senatus Academicus of Edinburgh University have resolved to confer the honorary degree of LL.D. upon William Mitchell Banks, M.D. Edin., F.R.C.S. Eng., Professor of Anatomy in University College, Liverpool.

MR. ALFRED COOPER, who has been on the active staff of St. Mark's Hospital for upwards of 34 years, has been elected honorary consulting surgeon on his retiring from the position of surgeon.

MR. F. G. PARSONS, F.R.C.S. Eng., delivered a course of three lectures upon the Joints of Mammals compared with those of Man at the Royal College of Surgeons of England, the dates of delivery being March 6th, 8th, and 10th. In the first lecture the temporo-maxillary articulation, together with those of the shoulder girdle, were dealt with, and in the second the joints of the elbow, wrist, and hip.

THE Senatus Academicus of Aberdeen University have resolved to confer the honorary degree of LL.D. upon James Frederick Goodhart, M.D. Aberd., F.R.C.P. Lond., consulting physician to Guy's Hospital; Charles Stewart, M.R.C.S. Eng., F.R.S., Conservator of the Museum of the Royal College of Surgeons of England; and George Frederick Stout, M.A., Lecturer on Comparative Physiology in Aberdeen University.

THE Brighton Town Council decided without dissent at their last meeting on the unanimous recommendation of the sanitary committee to increase the salary of Dr. Newsholme, medical officer of health, from £800 to £1000, which shows that the Brighton Town Council appreciate two good things—a clean public health bill and a medical officer who knows how to keep it clean.

AT a meeting of the weekly board of St. George's Hospital held on Wednesday, March 8th, it was unanimously resolved, on the recommendation of the medical staff, that in future contracts for milk a clause should be inserted providing that milk should be supplied only from animals which have been duly certified to be free from tubercle.

MR. FREDERICK TREVES, consulting surgeon to the London Hospital, has been appointed an Emeritus Professor of Surgery to the London Hospital and will give a course of lectures in clinical surgery in the winter session. The special subjects and dates will be announced in due course.

WE understand that owing to the lamented death of Professor Kanthack a session of the Summer School of Medicine at Cambridge cannot be held this year as was intended. It is hoped that arrangements may be made to hold another session in 1900.

PROFESSOR BURDON SANDERSON, F.R.S., Professor of Medicine in Oxford University, will give the Croonian Lecture before the Royal Society on Thursday, March 16th. The subject will be the Electrical Concomitants of Motion in Plants and Animals.

THE death is announced of Mr. Francis Nottidge Macnamara, M.D. St. And., M.R.C.S. Eng., at the age of 67 years. Deceased was formerly in the service of the Honourable East India Company and was a prominent authority upon tropical medicine.

THE Council of the British Association have nominated Sir William Turner, President of the General Medical Council and Professor of Anatomy in the University of Edinburgh, to be President of the Association when it meets in Bradford next year.

THE annual dinner of the Medical Society of London was held on Wednesday last, March 8th. The unfortunate indisposition of our representative prevents us from giving a full report this week.

THE late Professor Rutherford has bequeathed to Edinburgh University his valuable medical library and his physiological and microscopical specimens and diagrams.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

THE fifty-sixth sitting of the Royal Commissioners was held at the Guildhall, Westminster, on Feb. 28th. The Commissioners present were the Chairman (Lord Llandaff), the Right Hon. J. W. Mellor, Sir John Dorington, Mr. de Bock Porter, Mr. Robert Lewis, and Major-General Scott. The witnesses examined were Mr. Henry Gill (secretary of the Chelsea Water Company), the Right Hon. Sir William Hart-Dyke, Bart., M.P. (chairman of the Kent Waterworks Company), and Mr. Alexander Dickson (secretary of the Kent Company).

At the commencement of the sitting Mr. RICKARDS, on behalf of the Chelsea Company, said that the secretary had searched the minute books and had found entries as to the arrangements which had been made between the Chelsea Company and the other metropolitan companies which were authorised to supply parts of the district within the statutory limits of that company.

Mr. GILL said that the minute books were very voluminous, but that he had found a transcript of the whole history of the negotiations which had been entered into between the Chelsea Company and the New River, the Grand Junction, and the West Middlesex Companies with regard to the partition of the areas. These particulars, we believe, have not hitherto been published. The extracts which were taken from the minute-books were rather lengthy, and it may be sufficient to state that ultimately, after some preliminary skirmishing, a complete arrangement was made and signed by the directors of the boards of the companies interested and it was decided that a formal agreement should be prepared. It did not, however, appear that any binding legal document had been entered into and Mr. POPE, Q.C., pointed out that in the report of the Parliamentary Committee which inquired into the London water-supply in the year 1821 it was alleged that no formal agreement had been made with regard to the abolition of competition between the companies.

The witness put in a statement showing the average supply per head per day in 11 of the districts in which Deacon's water meters are in use. From this table it appeared that a considerable reduction had been made in the amount supplied since Deacon's meters had been used. For example, in one district the average amount per head was reduced from 25·7 to 18 gallons per head daily and in another district from 39·5 to 19·5 gallons daily.

In answer to Mr. MELLOR the witness said that he attributed most of the waste which had formerly taken place to defects in the fittings of the customers of the company. It did occasionally happen in times of frost that taps were allowed to run, but undoubtedly most of the waste was due to leakage of the taps. It was possible to have fittings which were absolutely tight, but the time which they lasted in a sound condition depended partly on the quality of the fittings, partly on the amount of use which they had, and very greatly on the manner in which they were used. The districts in which the reduction had taken place contained a large number of new houses, and the saving which had been made in consequence of a thorough examination of fittings had been very great.

In answer to Mr. MELLOR the witness said that the company had not yet introduced the Deacon meters into all parts of their district, but they were now trying them in places in which there were a large number of old houses.

Sir JOHN DORINGTON pointed out that one of the witnesses had told them that it was cheaper to pump a sufficient amount of water to make up for the waste than it was to introduce a thorough method of inspection, and Mr. POPE, Q.C., pointed out that in Glasgow they had never adopted Deacon's meters because they had an unfailing abundance of water, but of course where the supply was limited it was important that waste should be checked. The supply to Glasgow was given by gravitation and the amount was practically unlimited.

In answer to Mr. MELLOR the witness said that they made an extra charge for automatic flushing tanks and the charge was calculated at the rate of 1*s.* per 1000 gallons. This charge was made even in the case of heavily rated houses for they found that in some cases tanks were emptied every hour and that an enormous amount of water "was wasted" in this way.

In answer to Mr. MELLOR, the witness said that he did not think there was any necessity for these large tanks and that the frequent flushing was a modern sanitary requirement.

Mr. POPE on behalf of some of the metropolitan water companies called it "a modern fad."

The CHAIRMAN said that he was quite startled at the results which had been attained by the use of Deacon's meters, but Mr. PEMBER pointed out that even more striking results had been obtained at Oxford and at other places, and Mr. LITTLER, Q.C., stated that at Norwich the water-supply had been reduced to 15 gallons per head daily.

Sir WILLIAM HART-DYKE said that the customers of the Kent Company did not complain either of the quantity or of the quality of the water supplied by the company in which he was interested. The Kent local authorities had been content to leave the supply in the hands of the company. No effort had been made by any local authority under the Public Health Act to carry out a water-supply for themselves. At one time the local authority of Woolwich had a scheme but it was not put into operation, it was handed over to the Kent Company.

In answer to the CHAIRMAN the witness said that he had heard nothing of any strong public sentiment in Kent to the effect that people wished to have the water-supply in the hands of "representatives of the people."

The CHAIRMAN asked the witness to state his views with regard to the purchase of the undertakings of the Kent Company by some public authority. The witness said that as representing a large industrial business it of course went without saying that the Kent Company did not wish to be disturbed, but should Parliament decide otherwise they would of course have to submit. He did not contend that under no possible circumstances should a scheme of purchase be initiated. Strong language did not help an argument, but he ventured to submit that purchase should be the last possible resort. In saying this he spoke not only on behalf of the company but on behalf of the consumers and of the public. For example, in the case of the Kent Company he thought that they had presiding over the destinies of the company a representative and strong directorate, a strong body composed not only of business men but of representative men, men who lived on the spot and who were connected with the interests of the consumers and with the county of Kent. This body presided over a district of 187 square miles, including something like one-fifth of the metropolitan area. They had on their board a representative man, the Member of Parliament for a large constituency—that of Lewisham, a place situated right in the centre of their area of supply, a large and increasing district—a man whose name was a household word in the engineering world, one who had great experience in all matters concerning water-supply who, apart from his representative capacity, possessed a knowledge of engineering which was useful in examining estimates and in directing work of that sort in which special knowledge was useful. Again, they had on their board Mr. Henry Fowler, who had held high office in the State and who had been connected from his boyhood with municipal life. The Lord Lieutenant of the county was also on their board. The witness himself represented 16,000 electors in the county of Kent and these gentlemen would probably wish to know the reason at the next election should any failure take place in their water-supply and, for his own part, he was determined as long as he held his position not to allow his political opponents the luxury of any solid criticisms with regard to the water-supply of Kent.

The CHAIRMAN asked the witness whether there was any sort of control which he could suggest which would be advisable. It had been suggested that extensive pumping from the chalk was injuring private wells. The witness said it was true that that suggestion had been made.

The CHAIRMAN asked whether there would be any objection to have the wells gauged and the rest level taken and information of that sort given to the public. The witness replied that in his opinion neither the company nor any other corporate body would lose by giving the fullest information to the public whenever there was a strong public grievance. He would be opposed to too close supervision of their works or anything harassing to their engineers, but with regard to information to the public which they had a right to demand with reference to the question of lessening

water in the rivers he thought the public ought to have it and he went so far as to say that they must have all reasonable information given to them.

The CHAIRMAN asked the witness whether he thought that the management would be as efficient and as economical in the hands of a public authority as it was at present, and the witness replied that it was possible that men might be found in the county who would be able to manage the undertaking of the Kent Company, but in his opinion there must necessarily be a loss to the consumers in the disturbance of what is good in regard to that management of to-day. For example, they had followed a fixed policy from year to year with regard to their future supply. Day by day and week by week the policy of the Board had been to look forward and to keep steadily in advance of the immediate needs of their customers. It was surely better to have men to manage such a business who had been all their lives at the work, who were connected with the district, who knew it by heart, who knew every pipe and every main in the district, as their engineer did, than to have new men embarking upon such a work. If they took away a man who knew it all by heart and put another man in his place whatever his abilities might be the water consumers would be the losers for years.

Mr. MELLOR suggested that the purchasing authorities would employ the same engineer. The witness said that in that case it would be the same administration minus directors.

In answer to the CHAIRMAN the witness said that the Kent Company stood in an exceptional position with regard to the water—they were self-contained and independent.

The CHAIRMAN asked whether the Kent Company would be injured if some public authority bought up the other companies and left the Kent Company intact. The witness replied that there would be a difficulty with regard to their pumping stations, of which there were eight at present and a ninth in course of completion. Of these stations only two were in the metropolitan area.

The CHAIRMAN remarked that the undertaking was a large one and asked whether it would be in any way injured if it were left out of any scheme or purchase and continued to supply the same intra- and extra-metropolitan districts as it supplied at present. The witness replied that he thought that this would do no injury to the Kent Company.

Mr. ALEXANDER DICKSON in answer to the Chairman said that if it were necessary that a transfer of the Kent Company's undertakings should take place he thought it should be done either by agreement or by arbitration under the Lands Clauses Act. In the course of his examination the witness put in a table giving a summary of the increases and decreases of water rates upon alterations in the rateable values by the local authorities for the ten years 1887 to 1896. A table was also given showing that the increase in the rate valuation list totals was largely due to increases in the assessments of public companies. It was seen from these tables that in the seven larger metropolitan parishes of the company's district while the total increase upon the rate valuation of all properties amounted to £90,915 no less than £84,365 of this sum arose from the increased assessment on the properties of the public companies, the companies being railway, gas, water, and tramway companies.

The fifty-seventh sitting of the Royal Commissioners was held at the Guildhall, Westminster, on March 6th. The Commissioners present were Lord Llandaff (the chairman) Sir John Dorington, Mr. de Bock Porter, Mr. Cripps, Q.C., Mr. Robert Lewis, and Major-General Scott. The witnesses examined were Mr. Alexander Dickson, Sir Frederick Dixon-Hartland, Bart., M.P. (chairman of the Thames Conservancy Board), and Sir Edward Frankland, K.C.B., F.R.S. (water analyst to the Local Government Board).

Mr. DICKSON in answer to the CHAIRMAN said that the existing sources of supply and the present pumping capacities of the Kent Company allowed them to distribute 16,250,000 gallons of water daily. Of this amount 4,000,000 gallons were supplied to the districts outside London. Within the county of London the company could obtain from 8,750,000 gallons daily, but they distributed 12,000,000 gallons. The sources of supply outside the London district were, therefore, more than sufficient for the rural parts of Kent, whereas the sources of supply inside the county of London were less than the amount needed for the supply of the metropolitan part of the company's district. This fact would cause a difficulty in case of any severance of the company's supplies between the county of Kent and the London district. The rural authorities in the county of Kent had not exercised the powers which they possessed under the Public Health Act but were content to be supplied by the Kent Company. The history of the company showed a gradual extension, new districts having been added to the company's area at the request of the rural authorities concerned. (The history of these extensions has already been given in THE LANCET of April 3rd, 1897, p. 976.) The Sevenoaks Sanitary Authority had requested the company to supply water to a part of their district and Kent had, in fact, shown "anti-municipal" water tendencies. The county as a whole had been in favour of the unification of the water-supply in the hands of the company. Very few complaints were received from the customers and it was always found that any complaint with regard to the quality of the water was due to the arrangements in the consumer's own house. For example, a complaint had lately been received from Blackheath with regard to the quality of the water. An inspector of the company called on the morning on which the complaint was received and found that a starling in an advanced state of decomposition was contaminating the cistern which was placed in the roof of the customer's house. All the complaints which they received were due to local and accidental circumstances of this kind.

In answer to the CHAIRMAN the witness said that the different parts of the district were connected by mains which enabled them to supply water from one district to another so that in the case of a breakdown assistance could immediately be obtained. A case occurred, for example, in 1898 in which an accident befel the pumps at Wilmington and a supply to that district was sent from other stations. With regard to the rest-levels of the wells the witness said that the company would have no objection to giving any information which was required by the Local Government Board but he did not think that they should give that information to private individuals because their business might be thereby prejudiced.

In answer to Major-General SCOTT the witness said that as an instance of this a private individual might start a brewery near a successful well which was in the possession of the company. He thought that the company ought to be able to obtain all the water which they required for the supply of the inhabitants of their district even possibly at the cost of draining the wells of all their neighbours. At the present time the average daily supply was 16,000,000 gallons and the maximum last year amounted to 21,750,000 gallons. They could, however, obtain 25,000,000 gallons daily with their present pumping power. The witness contradicted an assertion made by Mr. Cripps, one of the witnesses employed by the London County Council, who stated that the total possible yield daily in the Kent Company's area was 27,500,000 gallons. The witness put in a large number of statements relating to the present condition of the company. These included a full account of the pumping mains and of the service mains, statistics of the daily supply from the year 1839 downwards, and tables relating to financial matters. The witness said that the company had never entered into competition with any other water company. When the Kent Company was started they were compelled to buy up the rights of an existing company. Their water rents for part of their district were secured under Letters Patent which gave them the exclusive right of supplying water for a period of 500 years within the manors of Sayes Court and East Greenwich.[1] The charter giving these rights was secured by the Kent Company and is held by them to-day. It followed, therefore, that no competition could take place in these districts without an infringement of those Letters Patent.

With regard to the cost of collecting the water rents the witness said that some of the collectors obtained 3 per cent. and some 2½ per cent. In the case of some of the older collectors who were unable to do much work from advancing years the company reduced the extent of their work and gave an additional commission. This amounted to a superannuation payment. The normal rate of commission was 3 per cent., which the witness suggested might be compared with that of the Liverpool outside districts in which 4 per cent. was allowed to the rate collectors. In the case of purchase by the London County Council the witness thought it would be necessary for that body to have a staff

[1] The date of the charter is 1701.

of collectors, because a considerable amount of the water rents received were for supplies given by meter or for some special purpose, and in each case there was a proper charge and each demand had to be made out separately.

In answer to Sir JOHN DORINGTON the witness pointed out that Sir Alexander Binnie, one of the witnesses employed by the London County Council, had made a mistake in the evidence which he gave with regard to the water rents charged at Bradford. The charges for the domestic supplies in Bradford are charged upon the gross value. The incidence of the charges levied at Bradford is therefore different from that in London.

In answer to the CHAIRMAN, the witness said that should it be necessary for the company to raise more capital he thought the sinking fund which was imposed with a view to the immediate purchase of the undertakings by some one body ought in fairness to be discontinued. It would not be fair that the customers in the rural parts of Kent should be prejudiced by a sinking fund which would prevent the company from realising the surplus profits which would lead to a lowering of the water rentals, for the money handed over to the Chamberlain of the City of London under the sinking fund clause would not be applied for the benefit of the people of Kent.

Mr. BALFOUR BROWNE, on behalf of the London County Council, proposed to call Mr. Howard Martin, a gentleman from Croydon, to contradict some of the evidence lately given by Mr. Wilkins, secretary of the Lambeth Company.

Mr. PEMBER, Q.C., interposed and stated that Mr. Wilkins had made mistakes in some of the evidence which he had given. As a matter of fact the lower charges for water which had been made in Croydon began in July, 1894, and the Lambeth Company had received complaints both as to the quantity and as to the quality of the water which they had supplied. Mr. Wilkins had also forgotten that subsequently in the month of October there was a meeting between the engineer of the Corporation of Croydon and the engineer of the Lambeth Company and that an arrangement had taken place to the effect that if the Lambeth Company maintained the reduction in the water rents the Corporation of Croydon would not interfere with the Lambeth Company in that part of the district in which they had already laid their mains. Mr. Pember therefore admitted that in consequence of what "might be called" fear of competition the water rents had been lowered by the Lambeth Company.

Mr. BALFOUR BROWNE pointed out that Mr. Martin was prepared to contradict a statement made by Mr. Wilkins that the Lambeth Company had taken from the Croydon Corporation the supply of 69 houses, and he pointed out that the fact was that a supply was not given by the Croydon Corporation on the undertaking that the water rents should be kept at the present level. The Lambeth Company agreed to maintain the reduction of rents, and therefore the Croydon Corporation had not interfered with the supply. Mr. Balfour Browne added that Mr. Martin was also prepared to prove that the Croydon Corporation was not, as Mr. Wilkins had said, "at the end of their tether" with regard to water-supply. They had water from a new source, and though it was true at one time that they had warned their customers to be careful of their water they had never been really short, and they were now making provision for a future supply in large quantities. As Mr. Wilkins had withdrawn everything which he had said with regard to Croydon it was not necessary for him to call the witness who was ready to give evidence.

Sir FREDERICK DIXON-HARTLAND, in answer to the Chairman, said that the Thames Conservators had no objection to the water companies taking their authorised supply upon an average of six months instead of upon a daily average if it were done in such a way that the Conservators had command of the water, so that it should not happen that a small quantity only was taken when the river was full and a large quantity was taken when the river was empty. The Thames Conservators were primarily a navigation authority and their great duty was to keep the channel of the river in a proper state. At one time during the summer of 1898 only 43,000,000 gallons passed in a day over Teddington Weir. This was a great disadvantage to navigation. The Conservators were afraid that if the companies were allowed to take water on an average instead of on a daily maximum scale they might take a small quantity when there was a large flow in the river and then in a dry season take an amount so excessive that it would be very bad for navigation.

The CHAIRMAN said that it seemed ridiculous that millions of gallons of water should go down the Thames and that a sufficient amount should not be taken when the water was plentiful. The witness pointed out that the difficulty which the Conservators had was that the metropolitan water companies wished to take the water when there was only a very small quantity in the river. The Conservators wished to have powers of restriction so that the flow of the river should not be reduced below a certain amount, and they thought that a heavy penalty should be imposed if water were taken from the river by the water companies should they abstract more than they ought in a dry season. The witness said that it was possible to get an injunction from a vacation judge but it was not so easy as when the courts were sitting.

In answer to Sir JOHN DORINGTON the witness said that he adhered to the evidence given by one of the officers of the Board to the effect that the flow over Teddington Weir should be not less than 200,000,000 gallons daily and that all the members of the Board agreed to that estimate.

In answer to Mr. DE BOCK PORTER the witness said that they wished that amount to be an irreducible minimum unless the amount were reduced below it by nature. The Conservators wished the metropolitan water companies to increase the storage capacity of their reservoirs. At the present time the capacity was insufficient. The storage capacity of the water companies ought to be sufficient for a 90 days' supply.

In answer to Major-General SCOTT the witness said that at present the water companies had statutory power to take 130,000,000 gallons daily without reference to the amount of the flow of the river. The Conservators felt strongly that their duty was to look after the navigation of the river and they objected to have their Acts put on one side. They might be content that the water companies should take in a time of drought any amount of water short of that necessary for navigation.

QUACKS AND ABORTION:

A CRITICAL AND ANALYTICAL INQUIRY.

VII.[1]

IN THE LANCET of Feb. 25th we stated that a very large number of London and provincial newspapers continue to publish the advertisements of persons professing to sell abortifacients and that many of these are the advertisements of those persons from whom we purchased the pills and potions upon which we founded our series of articles under this heading. It is almost inconceivable that the editors and proprietors of newspapers should be unaware of the purport of these advertisements after the revelations made in the course of the prosecution of the Chrimes brothers and after the full analysis that we published of the wares and literature of this infamous trade. Many, indeed, may have doubted our statement as to the continuing of the traffic in these medicines, varying, as we showed them to vary, from full doses of savin to harmless aperients, but all sold as competent to remove the most "obstinate obstructions" to the menstrual flow, one of the compounds of savin, sold by a Birmingham chemist named Ottey, being boldly characterised by him as strong enough to "shift anything." It will be remembered that we quoted the case of Owen *v.* Greenberg to show that the advertising agent or editor who has contracted to insert such advertisements cannot be compelled to do so, but even the advertisements of Owen (or Allen or the Irristum Company) continue to appear. In order that there may be no question of the wide dissemination of the advertisements or of the accuracy of our own statements with regard to it we give below a list of newspapers in which advertisements have appeared during or since the month of February either of persons whose trade we have discussed in these articles (in which case we give the name of the advertiser referred to) or whose advertisements are so worded that pregnant women are likely to purchase their medicines for an unlawful purpose whether they are in fact of an abortifacient tendency or not, or of persons whose trade partakes so obviously of an

[1] Articles I., II., III., IV., V., and VI. were published in THE LANCET of Dec. 10th, 17th, 24th, and 31st, 1898, and Jan. 21st and Feb. 4th, 1899, respectively.

objectionable character that no advertisements of their goods should, in our view, have been inserted without full inquiry on behalf of the newspaper in question. We note that some of the worst advertisers at times modify their usual form of advertisement; possibly this may have been done to meet the views of the editors of individual journals. In this case we are of opinion that an editor on whom an objectionable or criminal advertisement is sought to be planted ought to reject it entirely and not insert it in an emasculated form, because, however disguised, it can only be intended as a means of putting the quack, whether a would-be abortionist or ordinary swindler, in communication with his victim. Among advertisements of which we note the occasional modification are those of Madame Frain who at times professes that her preparations are "purely medicinal and not of use for any unlawful purpose." As we were not able to obtain specimens of these in return for our postal order, and consequently did not analyse them, we do not mention her name in our list, but we note that she still advertises in many organs without any such saving clause, and with the usual testimonials as to obstinate cases cured after weeks of misery and helplessness, while it is clear that her trade could hardly pay for its advertising if it was exclusively devoted to the cure of menstrual irregularities unconnected with pregnancy.

In the list below the names following the names of the newspapers are those of advertisers to whom we have called attention in our articles. We shall be glad to forward copies of the articles to persons responsible for the appearance of the advertisements who may wish for further information.

LIST OF PAPERS.

Alfreton Journal.
Alloa Journal.
Armagh Standard.
Bath Herald (Martin).
Bath Weekly Argus (Davis).
Bedfordshire Standard (Martin).
Berkhampstead Times.
Bicester Herald.
Bo'ness Journal.
Bournemouth Guardian (Davis, Blanchard).
Caithness Courier (Blanchard).
Cambridgeshire Times (Blanchard).
Carmarthen Reporter.
Carnarvon Herald.
Chard News.
Cheltenham Mercury.
Christchurch Times.
Clapham Observer.
Clifton Chronicle.
Cromer Post.
Daylight (published at Norwich).
Derbyshire Courier.
Dunoon Herald.
Dunstable Borough Gazette (Blanchard).
East and South Devon Advertiser (Davis, Blanchard).
East of Fife Record (Davis).
Eastern Morning News.
Faversham News.
Flintshire Observer.
Folkestone Express (Blanchard).
Gateshead Guardian (Blanchard).
Galway Express (Blanchard).
Glamorgan Free Press (Blanchard).
Hampshire Telegraph (Martin, Allen or Irristum).
Hawick Advertiser (Blanchard).
Hereford Times (Blanchard).
Herts Reporter (Blanchard).
Huddersfield Chronicle.
Hull News (Ottey).
Illustrated Bits (Ottey).
Illustrated Police News.
Isle of Wight Advertiser.
Jackson's Oxford Journal (Blanchard).
Jarrow Express.
Kendal News.
Kent Herald (Blanchard).
Kent Messenger (Heseldine).
Kentish Chronicle (Blanchard).
Kentish Express.
Kilmarnock Herald.
Launceston Post.
Lincoln Echo.
Lincoln Mercury (Davis).
Liverpool Weekly Mercury.
Lowestoft Standard (Heseldine).
Manchester Eastern Mail.
Manx Sun.
Merthyr Times (Blanchard).
Midland Counties Express.
Midland Eastern News.
Montgomeryshire Express.
Newcastle Leader.
Newry Reporter (Blanchard).
Norfolk Standard (Heseldine).
North Devon Herald (Blanchard).
North Down Herald (Blanchard).
North Herts Journal.
Nottingham Daily Express.
Orcadian (published at Kirkwall, Orkney) (Montrose).[2]
Pelican (Martin).
Peterhead Sentinel (Blanchard).
Pembrokeshire Herald.
Preston Herald (Martin).
Reynolds's Newspaper (Martin, Allen or Irristum, Davis).
Rochdale Times (Davis, Blanchard).
Scarborough Post (Allen or Irristum).
Shields Daily Gazette.
Sketchy Bits (Ottey).
Sleaford Gazette.
Somerset Express.
South Durham Mercury.
Southampton Times (Martin, Davis).
Stafford Advertiser.
Surrey Gazette.
Sussex Advertiser.
Taunton Echo (Blanchard, Allen or Irristum).
Ulverston Advertiser (Blanchard).
Waterford Chronicle.
Weekly Northern Whig (Blanchard).
West Kent Advertiser.
West Lothian Courier (Blanchard).
Western Advertiser.
Western Express (Blanchard).
Western Gazette.
Western Mercury.
Westmorland Gazette.
Whitehaven Advertiser.
Woman (Martin).
Worksop Guardian.
Yarmouth Mercury.
Yorkshire Herald (Davis).

[2] We have received a letter from the editor of the *Orcadian* explaining that the "Montrose" advertisement was accepted in error and inserted through a printer's blunder, and would have been weeded out when detected. We are glad to know this and also to know that the present proprietor of the *Orcadian* has "repeatedly rejected advertisements of the 'Manhood Vigour' type," and has also refused to renew Madame Frain's disgusting advertisements. We wish other editors would be as scrupulous.

ARMY MEDICAL REPORT FOR 1897.

FIRST NOTICE.

THE report of the Army Medical Service for 1897 which has just been presented to Parliament dealing with the health and sanitary condition of the army gives the average strength of European troops serving at home and abroad during that year as 198,294 warrant officers, non-commissioned officers, and men. In what follows we cannot do better than adhere very closely to the excellent summary afforded in the report itself, reserving for a future occasion the consideration of the report in more detail. The total number of admissions to hospital was 192,654, and the total deaths were 1871. The admissions represent a ratio of 971·5 per 1000 of strength, the deaths one of 9·35 per 1000 on a strength of 200,058, which includes detached men not shown in the returns received. There has been again a decline in the admission and mortality rates amongst troops serving in the United Kingdom during the year, both as compared with the previous year and with the average for the decennial period.

There was no special prevalence of eruptive fevers, except at Caterham where there was an outbreak of scarlet fever. The ratios of admissions and mortality for enteric fever are the same as in 1896 and slightly below the average ratios. About one-fifth of the admissions occurred in Dublin, in many of which the fever was not, however, contracted there, but was traced to defects in the barracks at Birr. Influenza was more prevalent than in 1896. The decline in venereal diseases, which commenced in 1886 and has continued practically without interruption ever since, was again observed in 1897, the greatest decrease being in primary venereal sores.

Passing on to the army abroad we find that at Gibraltar there was a marked increase in the admission for venereal diseases in 1897; and enteric fever, although below the average for this command, was also more prevalent than in the preceding year. At Malta, Mediterranean and other continued fevers had increased in prevalence, but many of these cases, as well as a number of cases of dysentery, were contracted in Crete, the statistics of the sickness among the troops serving there having been included in those of the Malta command. In Canada the health of the troops was very good. In Bermuda there was a somewhat increased prevalence of enteric fever, the amount of which, though much below the decennial average, was above that of 1896. We may remark *en passant* that in the prevalence of this form of fever Bermuda compares unfavourably with that of other commands and appears to call for careful local investigation into its causes. The ratio for venereal diseases was relatively low at this station. There was an outbreak of yellow fever among the European troops in Jamaica causing 16 admissions and 10 deaths. Continued and malarial forms of fever were unduly prevalent among the troops serving in the West Indies. Venereal diseases showed a very high admission-rate which has been more or less continuous since 1888. In South Africa the health of the troops was fairly good on the whole, but enteric fever and dysentery caused a considerable amount of sickness in Natal. In Mauritius the health of the troops generally was above the average, the amount of malarial disease, which is *par excellence* the disease of that station, having decreased of late years.

In Ceylon there was little sickness of a special character. In China the most marked feature was the continuous and exceptional prevalence of venereal diseases which showed a further increase, amounting to nearly 33 per cent. in excess of the admissions during the previous year. In the Straits Settlements there was a large amount of sickness from malarial fevers, but venereal diseases declined considerably as compared with 1896 and with the decennial average. In India there was an increase in the admission and constantly sick rates, largely due to malarial fevers, and there was also an increase in sickness from enteric fever, other continued fevers, and cholera. There was a small decrease in venereal diseases. These diseases accounted for one-third and malarial fevers for nearly one-fourth of the total number of admissions. There were a few cases of plague among the troops in the Bombay command. The admission ratio of

the troops in Egypt was lower than in 1896 and much below the average rate, the most notable decline being in enteric fever, venereal diseases, and digestive disorders.

AN HISTORIC CRISIS IN THE MEDICAL SOCIETY OF LONDON.

IN the course of some remarks made by the President of the Medical Society of London (Mr. Owen) at the anniversary meeting on March 8th, an account was given of a "lock-out" which occurred before the society was two years old. It happened thus:—

The first meeting of the society was held in May, 1773, at which 10 members were present, among them being Hulme, a retired naval surgeon, who was eventually the first librarian, Lettsom, the first treasurer, and Ford, who was asked to act as honorary secretary. Week by week new members were elected, amongst whom were John Millar, who shortly afterwards was voted into the presidential chair, Blizard and Bland, who successively helped Ford as secretary, and one, Pearce by name, who was, until he ceased to pay his rent, the society's tenant at their house in Crane-court. The part of this house which the society reserved for itself was the first floor, where, at a considerable cost, they had arranged a large meeting room and a small council room. Everything was going smoothly until the autumn of 1774, when considerable unrest occurred in connexion with the framing of rules. Party feeling ran high and the useful work of the society was seriously hindered. A special summons was sent out for a meeting of the society on Jan. 10th, 1775, for determining whether the report of the laws committee should be confirmed. This was decided in the affirmative by 17 votes to 13, three members not voting. In the minority were the president (Millar), the two secretaries, and the late secretary, Blizard. On the vote being declared the president and the secretaries resigned their respective offices but not their membership of the society. Now, the lease of the Crane-court house had been signed on behalf of the society by the president, the secretary (Ford), and the librarian (Hulme), and it, together with the minute books and the keys of the rooms, remained in their hands. On Jan. 18th, 1775, the anniversary meeting of the society was to be held, at which the officers for the ensuing year were to be appointed, but on the members repairing to Crane-court for that purpose they found the doors of their rooms "unwarrantably locked" and themselves without secretaries or minute-books. They adjourned, therefore, into one of the rooms which they had let to Pearce, where in considerable discomfort they elected their officers, with Lettsom at their head as president. The lock-out continued for a month, in the course of which it was reported to the Council that Millar, Ford, and Blizard had been heard to utter the impious statement that there was no such an association in existence as the Medical Society of London. Though by the action of their late president and secretaries the society had lost possession of its lease, its rooms, and its books, it considered that it had preserved its honour and its life, and the Council recorded their opinion that the impious expression given vent to by those gentlemen warranted them in erasing their names from the roll of its members. Meanwhile "the Millar and his men" had begun to realise the absurdity of the position in which their hasty act had placed them. If there were really no Medical Society of London what was the use to them of the lease which they had signed and impounded, and who was going to pay the rent of the house for which they had rendered themselves responsible? In these circumstances they sent Hulme, one of the co-signatories, as an ambassador to the Council, saying that if the Council would take over the lease and indemnify them from all future liabilities in connexion with it, they were willing to hand it over, together with the keys of the rooms and the minute-books. This the wise and gentle Lettsom undertook to do, and on March 7th, 1775, he had the great delight of composing a presidential message which was to be sent to all the members of the society "acquainting them that harmony is restored, and requesting their attendance as usual." At the same meeting the Council, doubtless at Lettsom's instigation, advised the society to consider "the Millar and his men" as members on their declaring themselves to be "friends of the society." This of course was done and as a proof that neither the society nor Lettsom bore Millar any ill-will for the very embarrassing and perilous course which, in the supposed interest of the society, he had felt compelled to take, the society paid him the high compliment of asking him to deliver the Oration in January, 1776. This also, it is hardly necessary to say, Millar was glad to do, and it is very gratifying to see by the minute-book that he had amongst his audience not only Hulme, Bland, Blizard, and Ford, but Lettsom who occupied the presidential chair, and a large number of members who must have voted against him on that momentous occasion twelve months previously. Fortunately, the good feeling amongst its members which carried the infant society safely through the convulsion and the crisis of 125 years ago still prevails and shows no sign of diminution.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Withington Urban District.—The compulsory notification of measles was discontinued in this district during 1898, the council relying for their future knowledge of both measles and whooping-cough upon the public and private school authorities and on the school attendance officers. When a case of either of these diseases comes to the notice of the sanitary authority the inspector of nuisances will at once call at the invaded house and will leave printed instructions applicable to the case, and, if a medical man be not in attendance, this same officer will call at intervals to ensure the carrying out of the instructions. The inspector will also endeavour to make the notified cases clues to further and unnotified cases in the manner suggested by us recently in these columns. The day schools and Sunday schools involved will be notified of the cases and printed precautions will be left at houses near to the ones invaded. When five or more cases occur in connexion with any public school the average and present attendances in each department will be ascertained, as also the number of children known to be suffering from disease, and the number of children absent owing to the disease in question existing in their homes. When the number of actual cases either of measles or whooping-cough exceeds 10 per cent. of the average attendance in any department that particular department will be closed unless there should be strong contra-indications to such a course, and if a Sunday school is held in the same building a recommendation will be made to close this also. During 1898 the schools did not, Dr. Railton thinks, act as disseminators of either measles or whooping-cough.

Newton Abbot Urban and Rural Districts.—Mr. W. Harvey, in discussing the prevalence of enteric fever in the urban district during 1897, refers to two cases which, in his opinion, contracted their infection from the consumption of cockles, while a third person who partook of cockles at the same time was attacked with gastritis. Having regard to the interest which at the present time attaches to the question of infection by shell-fish it would have been helpful had the date of the cockle feast been furnished, as also some statement as to the condition in which the molluscs were when eaten—i.e., whether cooked or raw. The typhoid bacillus is, as is well known, killed at a lower temperature than boiling-point. Mr. Harvey also refers to two cases of typhoid fever which he regards as having had their origin in the ingestion of water while bathing. In the report as to the Newton Abbot Rural District Mr. Harvey refers to an outbreak of diphtheria which he thinks was associated with the local school, the disease disappearing on the closure of the school and recurring on its re-opening.

Buckingham Rural District.—Dr. Philip Benson states in his annual report that the council of this district have refused to put into action the Dairies and Cowsheds Order, and he expresses the opinion that the order should be made compulsory by the central authority. Doubtless Dr. Benson is here referring to the making of regulations under the Dairies, Cowsheds, and Milkshops Order, as the order

itself is already obligatory upon sanitary authorities. He would like to see "all cows with diseased udders or otherwise found dangerous on inspection ..... got rid of," the owners being compensated. It is by no means satisfactory for Londoners to hear that in the Buckingham rural district, from which not improbably milk is sent to London, cowsheds, &c., are not properly controlled. Two villages in this district have recently been called upon by the Thames Conservancy Board to treat their sewage, and hence some progress in this direction has been made. Dr. Benson, however, has still to deplore the fact that there is no isolation accommodation other than a tent in this district, and he thinks that had the Buckingham County Council possessed a medical officer of health more progress would have been made. Buckingham is certainly not a progressive county as regards sanitation, although there is in this county such an abundant harvest awaiting the successful sanitary reformer.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6730 births and 4718 deaths were registered during the week ending March 4th. The annual rate of mortality in these towns which had been 19·5 and 20·6 per 1000 in the two preceding weeks further rose last week to 21·6. In London the rate was 22·1 per 1000, while it averaged 21·2 in the 32 provincial towns. The lowest rates in these towns were 13·1 in Croydon, 14·6 in Leicester, and 14·8 in Burnley; the highest rates were 25·3 in Preston, 25·4 in Birkenhead, 29·6 in Manchester, and 29·8 in Liverpool. The 4718 deaths in these towns included 437 which were referred to the principal zymotic diseases, against 340 and 264 in the two preceding weeks; of these, 117 resulted from whooping-cough, 109 from measles, 96 from diphtheria, 43 from diarrhœa, 40 from "fever" (principally enteric), and 32 from scarlet fever. The lowest death-rates from these diseases were recorded in Croydon, Brighton, Bristol, and Preston, and the highest rates in West Ham, Swansea, Birkenhead, and Manchester. The greatest mortality from measles occurred in West Ham, Derby, Manchester, and Salford; from scarlet fever in Sunderland; from whooping-cough in Plymouth, Swansea, Birkenhead, Bolton, Hull, and Sunderland; and from "fever" in Wolverhampton. The 96 deaths from diphtheria included 48 in London, 7 in West Ham, 7 in Liverpool, 5 in Swansea, 5 in Sheffield, 4 in Blackburn, 4 in Leeds, 3 in Portsmouth, and 3 in Leicester. No fatal case of small-pox was registered last week in any of the 33 large towns; and two small-pox patients were under treatment in the Metropolitan Asylums Hospitals on Saturday last, March 4th. The number of scarlet-fever patients in these hospitals and in the London Fever Hospital at the end of last week was 2584, against numbers declining from 2939 to 2575 on the nine preceding Saturdays; 236 new cases were admitted during last week, against 253, 202, and 241 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 413 and 484 in the two preceding weeks, declined to 470 last week, and were 87 below the corrected average. The causes of 69, or 1·4 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Salford, Newcastle-upon-Tyne, and in 13 other smaller towns; the largest proportions of uncertified deaths were registered in Liverpool, Preston, Sheffield, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns which had declined in the three preceding weeks from 31·2 to 24·1 per 1000 rose again to 25·1 during the week ending March 4th, and exceeded by 3·5 per 1000 the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 19·7 in Dundee and 24·4 in Aberdeen to 26·3 in Glasgow and 28·2 in Leith and in Greenock. The 765 deaths in these towns included 33 which were referred to measles, 31 to whooping-cough, 21 to diarrhœa, six to "fever," five to scarlet fever, and three to diphtheria. In all, 99 deaths resulted from these principal zymotic diseases, against 76 and 64 in the two preceding weeks. These 99 deaths were equal to an annual rate of 3·2 per 1000, which was 1·2 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of whooping-cough, which had declined from 43 to 23 in the four preceding weeks, rose again to 31 last week, and included 11 in Glasgow, seven in Edinburgh, six in Leith, and five in Dundee. The deaths from measles, which had been nine and 19 in the two preceding weeks, further rose to 33 last week, of which 19 occurred in Aberdeen, seven in Glasgow, and five in Edinburgh. The six deaths referred to different forms of "fever" exceeded by two the number recorded in the preceding week and included four in Glasgow. The five fatal cases of scarlet fever corresponded with the number in the preceding week and included four in Glasgow; and of the three deaths from diphtheria two were recorded in Edinburgh. The deaths referred to diseases of the respiratory organs in these towns, which had been 285 and 233 in the two preceding weeks, further declined to 213 last week, but were 71 above the number in the corresponding period of last year. The causes of 52, or nearly 7 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin which had been 27·3 and 30·3 per 1000 in the two preceding weeks further rose to 31·9 during the week ending March 4th. During the past four weeks the rate of mortality in the city has averaged 30·3 per 1000, the rate during the same period being 21·4 in London and 26·2 in Edinburgh. The 214 deaths registered in Dublin during the week under notice showed an increase of 11 upon the number in the preceding week, and included 17 which were referred to the principal zymotic diseases, against eight and 12 in the two preceding weeks; of these, six resulted from "fever," five from whooping-cough, four from scarlet fever, two from diarrhœa, and not one either from small-pox, measles, or diphtheria. These 17 deaths were equal to an annual rate of 2·5 per 1000, the zymotic death-rate during the same period being 2·0 in London and 3·1 in Edinburgh. The deaths referred to different forms of "fever" which had been two and four in the two preceding weeks further rose to six last week. The fatal cases of whooping-cough which had been four and two in the two preceding weeks rose again to five last week. The four deaths from scarlet fever exceeded the number recorded in any week since November last. The 214 deaths in Dublin last week included 25 of infants under one year of age and 55 of persons aged upwards of 60 years; the deaths of infants showed a marked decline, while those of elderly persons slightly exceeded the number recorded in the preceding week. Eight inquest cases and eight deaths from violence were registered; and 90, or more than a third, of the deaths occurred in public institutions. The causes of 13, or more than 6 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are announced:—Staff Surgeon W. J. Colbourne to the *Boscawen*, additional for the *Agincourt*. Surgeons: H. Huskinson to the *Cambridge*, and G. B. Brown to the *Vivid*, additional.

ARMY MEDICAL SERVICE.

Surgeon-General H. S. Muir to be Deputy Director-General, vice Surgeon-General W. Taylor, C.B., who has vacated that appointment.

ROYAL ARMY MEDICAL CORPS.

Captains A. H. Bray and J. H. Rivers, and Lieutenant S. L. Cummins and H. G. F. Stallard are directed to proceed to Egypt for duty with the Egyptian Army. Major H. J. McLaughlin, half-pay, is posted to the Western Heights, Dover, for duty.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant Conrad Theodore Green, 1st Volunteer Battalion the Cheshire Regiment, to be Surgeon-Lieutenant.

VOLUNTEER CORPS.

Artillery: 1st Aberdeenshire: Surgeon-Major R. J. Garden resigns his commission; also is granted the rank of Surgeon-Lieutenant-Colonel with permission to continue to wear the

uniform of the corps on his retirement. 2nd Sussex: Surgeon-Major H. Colgate to be Surgeon-Lieutenant-Colonel. 2nd Middlesex: Surgeon-Lieutenant A. B. Lyon to be Surgeon-Captain. *Rifle:* 17th North Middlesex: The under-mentioned Surgeon-Lieutenants to be Surgeon-Captains: P. S. Spokes and J. W. Pare. 1st Tower Hamlets: George Alexander Cohen to be Surgeon-Lieutenant. 1st Volunteer Battalion the Prince Albert's (Somersetshire Light Infantry): Richard George Worger to be Surgeon-Lieutenant. 4th (Cambridge University) Volunteer Battalion the Suffolk Regiment: The under-mentioned officer resigns his commission: Surgeon-Lieutenant G. V. Worthington. Galloway: Surgeon-Lieutenant D. D. Monro to be Surgeon-Captain. 4th Volunteer Battalion the Hampshire Regiment: Surgeon-Lieutenant A. H. Vernon to be Surgeon-Captain. 4th (Stirlingshire) Volunteer Battalion Princess Louise's (Argyll and Sutherland Highlanders): Surgeon-Lieutenant-Colonel M. Benny resigns his commission; also is permitted to retain his rank and to continue to wear the uniform of the battalion on his retirement.

THE EXAMINATION OF RECRUITS FOR THE ROYAL NAVY.

A correspondent sends us a copy of a circular which is sent out by the Medical Department of the Navy. It reads:

> Will you please inform me by return of post if you are willing to examine Recruits for the Royal Navy at —— on the following scale of remuneration:—
>
> (a) If a candidate is rejected by you ... ... 2s. 6d.
> (b) If passed by you, but rejected on medical grounds at the final examination by a board of medical officers at the Royal Naval Hospital at the port ... ... nil.
> (c) If passed by you and not rejected on medical grounds at the final examination ... ... 4s. 0d.

Our correspondent asks us for our opinion on this scale of payment which he characterises as "sweating." At first sight the scale may seem to be inadequate. We understand, however, that the terms in question have been offered for some time and are those paid to the Admiralty surgeons and agents and marine recruiting officers throughout the country. The fact that these appointments are somewhat keenly sought after would seem to show that they are not considered inadequate. Our correspondent's complaint is the only one which we have as yet received with regard to the subject and we imagine that if the scale of payment was anything like universally regarded as "sweating" we should have heard more about it.

THE TRANSPORT OF SICK AND WOUNDED SOLDIERS.

We are glad to notice that the subject of our inadequate and defective arrangements for the transport of sick and wounded soldiers is receiving attention. This nation is lagging behind continental nations in this respect both in this country and in India. As regards the latter, the amount of railway accommodation requires to be increased and its quality improved for the more comfortable transport of the sick and wounded towards Bombay and thence to England by troopship. The arrangements and accommodation for invalids on board ordinary troopships are not by any means all that they should be and we need a larger number of hospital ships, designed and fitted out as such, for the conveyance of sick and wounded men and invalids from abroad. Sick soldiers returning from abroad and suffering from the effects of malarious and tropical fevers or dysentery or invalided after active campaigning have a right to expect that they will be brought home in a roomy, comfortable sea-going vessel where the medical, hygienic, and other arrangements for their recovery are made the main and not a subordinate consideration.

THE ABSENT HOSPITAL SHIP AND THE OMDURMAN CAMPAIGN.

We are not surprised that Colonel Lonsdale Hale is not at all satisfied with the further explanations of the Under-Secretary of State for War in amplification of those which he afforded the House of Commons on Feb. 16th. Mr. Wyndham was, of course, in no respect personally responsible in the matter; his task was to defend a grave mistake, to say the least of it, which had occurred before he was in office. There is no doubt that there should have been a hospital ship present at Alexandria, if not two; that there was ample time, if steps had been taken to prepare one after it had been first asked for by the Army Medical Service, to have had a hospital ship there; and that the want of it was sorely felt and prejudicially affected the interests of the sick and wounded.

RECRUITS.

According to the recently issued Report of the Inspector-General of Recruiting 66,501 recruits presented themselves for medical examination last year. Of these 23,287, or 35 per cent., were rejected for various ailments or for want of physical development; 13,969 for the first reason and 9318 for the second. This is not calculated to afford a favourable impression of the progressive improvement in the health and physique of those classes of the civil population from which recruits are mainly drawn.

THE OPERATIONS IN WEST AFRICA.

Among the names brought to the notice of the Minister of War in the late despatch of the Secretary of State for the Colonies are the following: Mr. E. H. Tweedy, Assistant Colonial Surgeon, Gold Coast; Dr. J. O. Coker, Assistant Colonial Surgeon, Gold Coast; Captain E. M. Hassard, Royal Army Medical Corps; Mr. W. H. G. H. Best, Assistant Colonial Surgeon, Lagos; and the late Mr. F. W. Rock, Assistant Medical Officer, West African Frontier Force.

THE SOUDAN.

The Khalifa's forces are stated to be raiding the districts and oppressing those tribes in the Soudan who were friendly to us during the late campaign and the impression is growing that a fresh expedition on a small scale against the Khalifa will be required. Meanwhile, the health of the British troops at Khartoum is excellent and there is little or no fever prevalent among them.

HONORARY SURGEON TO THE QUEEN.

We have to congratulate Surgeon-Major and Hon. Deputy Inspector-General J. Jee, V.C., C.B., half-pay, late Medical Department, on his being appointed Honorary Surgeon to the Queen, vice Surgeon-General Sir J. Mouat, K.C.B., V.C., deceased.

DEATH IN THE SERVICES.

Surgeon-Major John Stuart Smith (retired), late A.M.D., on March 1st, at his residence in Edinburgh, aged 84 years.

Correspondence.

"Audi alteram partem."

THE PREVENTION OF PHTHISIS AND NOTIFICATION.

To the Editors of THE LANCET.

SIRS,—I have read with much interest the abstract of Dr. Newsholme's address published in THE LANCET of Feb. 4th, page 279; but while very much has been said of late about "The Prevention of Phthisis" I cannot feel at all sure that at this time there is sufficiently conclusive evidence to justify the doctrine.

As regards "notification" of the disease to the medical officer of health, this will of course follow when the means of diagnosis shall be certain and infallible. Possibly the Local Government Board may be able to arrange a special diagnostic department the officers of which would relieve us of much anxiety in cases in which the diagnosis was not quite certain and our patients of all doubt in a number of cases in which we feel unable to form what an actuarial friend of mine was always demanding—"a firm opinion." As I began medical teaching in 1850 I shall necessarily be called old, and perhaps a fogey or fossil in addition, but are we not going too fast and too far with regard to the "Prevention of Consumption" question? Nay, are we as yet justified in leading the public to infer that consumption *certainly can be "prevented" or "cured"?*

Everyone who has been engaged for many years in medical work in hospitals and among the more fortunate people who can command the "best advice of their time" has probably also seen many cases pronounced to be phthisis which were not of that nature—many cases in which the disease was not suspected or diagnosed in its early stages—and many more cases which were "doubtful" for a long time. I can remember the cod-liver oil enthusiasm, the warm climate enthusiasm, the open window treatment in high altitudes in midwinter. Other cases, again, in which great careers were needlessly cut short—cases in which money was wasted, and

misery caused or much increased by steps being taken in consequence of "threatened tubercular disease," as well as sad cases which at first seemed to be "only a cold," but proved to be what we then called "acute phthisis" fatal in a few days or weeks. Of course such sad misfortunes would be no longer possible if in every case of phthisis the bacillus was detected, and was not present in any case in certain respects resembling the disease.

Then, as to the out-door treatment I would ask, Are there not hundreds of careful, intelligent members of our profession in suitable places in all parts of the country by whom doubtful cases might be watched for a time and serious cases efficiently tended—both classes of patients being happier, and chronic invalids better placed as to nursing, medical treatment, food and comforts than would be possible in hospitals, homes, or sheds, with strangers, hundreds of miles away? Lastly, there is the unfortunate proposal about "notification" and the imposition of yet more "laws"! Are we not already burdened with laws, inspections, orders, notifications and authorities with the right of disturbing us in our homes enough? Would not the public have been better off by this time had they been allowed to take advice from us, instead of being subjected to compulsory laws to be afterwards abrogated, left in abeyance, or neutralised by a "conscience" or other clause? If years ago vaccination had been left entirely in our hands and to our teaching and persuading powers, would there have been at this time a single unvaccinated or discontented person in the country? Of course I shall be told to look at Germany and her vaccination success—but the mental constitution of the German and the Briton is, indeed, very different. Perhaps from being less logical, we are not to be managed on precisely the same principles as those applicable to some of our foreign friends—especially where ideas of health and freedom are concerned. I am, Sirs, yours faithfully,

Feb. 5th, 1899. LIONEL S. BEALE.

THE CENSUS BILL FOR 1901.

To the Editors of THE LANCET.

SIRS,—The Census Bill for 1901 being now under the consideration of the House of Commons it behoves all persons interested in vital statistics and sanitation (whether medical officers of health, practitioners, or members of the Statistical Society) to exercise their power in order to obtain a "Quinquennial Census" Bill instead of a "Decennial" one, also that the same be taken at the end of June. A quinquennial census is practised in France, New Zealand, Queensland, Manitoba, and North-Western Territory of Canada, and in some German States a triennial. Vital statistics must always furnish the basis on which sanitary reforms shall rest and as these are obtained from the population of districts, unless the said population is accurate the results desired, after the trouble of gathering the statistics, are worthless. Means have been adopted to obtain the estimated population of places for intercensal periods, but these are found to be inaccurate and the error increases the further the calculation is removed from the last census. The effect of migration is so great in this country and especially in rural districts, of which Cumberland, Westmorland, and Cheshire afford numerous examples, that no means can be adopted to cope with the same "except frequent census returns." Trusting that some of your readers in each Parliamentary division will petition the representative of that division to support and vote for a "quinquennial census" when the Census Bill is before the House, I am, Sirs, yours truly,

JOHN PENNY, M.B., B.Sc. (Public Health) Edin.

Great Broughton, near Cockermouth, Feb. 25th, 1899.

[INCLOSURE.]

(Copy of letter forwarded to each M.P. for Cumberland, Westmorland, and Cheshire by me.—J.P.)

THE CENSUS BILL FOR 1901.

Great Broughton, near Cockermouth, March, 1899.

DEAR SIR,—The Census Bill for 1901 being now under discussion I take this liberty in writing to ask if you will kindly support a "quinquennial census" instead of a decennial one, also to have the same taken at the end of June. A quinquennial census is practised in France, New Zealand, Queensland, Manitoba, and North-Western Territory of Canada, and in some German States a triennial. Vital statistics must always furnish the basis on which sanitary reforms shall rest and as these are obtained from the population of districts, unless the said population is accurate the results desired, after the trouble of gathering the statistics, are worthless. Means have been adopted to obtain the estimated population of places for intercensal periods, but these are found to be inaccurate and the error increases the further the calculation is removed from the last census. The effect of migration is so great in this country and especially in rural districts, of which Cumberland, Westmorland, and Cheshire afford numerous examples, that no means can be adopted to cope with the same "except frequent census returns." Trusting you will do what little you can by speaking in favour of a quinquennial census when the Census Bill is before the House and voting for the same, I remain, yours, &c.

EPIDEMIC INFLUENZA: ITS PECULIARITIES AND TREATMENT.

To the Editors of THE LANCET.

SIRS,—The Thames Valley, like other parts of the country, has of late been suffering from an epidemic of influenza and an opportunity has thus been afforded us of studying the disease in its latest phases. The poison on this as on other occasions seems to be expending itself on the nervous system and though the cases are not usually serious they are very trying both to medical man and patient and exhibit signs of great prostration. It mostly manifests itself in two different forms. First, in neuralgic pains about the head and limbs; and secondly, in spasmodic cough similar to whooping-cough. It is somewhat curious to find that the temperature in these two forms is not as a rule identical. In the former it is usually above the normal, while in the latter it is below, generally only 97° F. As regards duration the first is, as a rule, much shorter than the second, but both are associated with great debility. As regards treatment, the neuralgic pains yield pretty readily to salicylate of soda, but the spasmodic cough is most undoubtedly a very difficult symptom to deal with, for as far as I have been able to see it is affected little or nothing by any treatment, whether general or local. I have tried diaphoretics, nerve sedatives (such as hydrobromic acid, prussic acid, conium, codeia, and gelseminum), stimulants (as ammonia), tonic (as quinine and bark), inhalations of steam (friar's balsam and cresyline), and counter-irritation applied to the throat by means of chilli paste covered over with damp lint and oiled silk. Of all methods I think the last-mentioned is the best, supplemented with diffusive stimulants and bark.

I am, Sirs, yours faithfully,

Surbiton, March 6th, 1899. F. P. ATKINSON.

THE CLINICAL RESEARCH ASSOCIATION.

To the Editors of THE LANCET.

SIRS,—As I am constantly receiving letters with reference to specimens sent to the Clinical Research Association for examination I should like to point out that I have never been on the staff of this body and, indeed, am not even a subscriber. By allowing this statement to appear in your columns you will save me considerable trouble in replying to letters about matters in which I am in no way concerned.

I am, Sirs, yours faithfully,

Cavendish-place, W., March 7th, 1899. J. W. WASHBOURN.

"HUNTER *v.* CLARE."

To the Editors of THE LANCET.

SIRS,—As there have been since the "Hunter case" statements and inquiries all seeming to cast doubt on the right of a Licentiate of the Royal College of Physicians of London to style himself "physician," I would reiterate the well-known answer given by the then Attorney-General, Sir R. Palmer, to a question submitted to him by the Royal College of Physicians whether their Licence conferred upon the holder the title of physician, the answer being in the affirmative. Secondly, that whatever may have been said by the way or in passing by the judges in the Hunter case or any inference therefrom is not authoritative, the only statements of a judge which are so authoritative being those which actually form part of the judgment on the question at issue. So I submit that the title of a Licentiate of the Royal College of Physicians is in no way altered by any *obiter dictum* or inference therefrom in the Hunter case.

I am, Sirs, yours faithfully,

Hastings, March 4th, 1899. FREDERICK W. COLLINGWOOD.

To the Editors of THE LANCET.

SIRS,—As I see that Mr. J. Noble Bredin of Potton has been accused of complaining to the General Medical Council

of my late husband, I think it only right to state that the real complainant was another medical man, as can easily be proved. Beyond trying to get an honest living in that man's neighbourhood my poor husband never did him any harm, but the action which resulted from his complaint caused my husband's death at the early age of 31 years, leaving me completely unprovided for.

Mr. Bredin was a true and loyal friend to us both.

I am, Sirs, yours faithfully,

CAROLINE KINGSLEY HUNTER.

Warwick-street, S.W., March 7th, 1899.

"SYMPTOMS OF POISONING FROM A SMALL DOSE OF TINCTURE OF CANNABIS INDICA."

To the Editors of THE LANCET.

SIRS,—I have been interested by reading in THE LANCET of Dec. 24th, 1898, the valuable observation on cannabis Indica by Mr. Antony Roche. I had a similar experience not long ago which might interest your readers. The patient, a young woman, aged 19 years, strong and robust in health, consulted me for dysmenorrhœa. I ordered her three-quarters of a grain of extract of cannabis Indica and added some camphor to it to be made into a pill. The next day her friends were alarmed by her condition and sent for me. I found that after taking one pill she was noticed to be different from her usual manner and the pleasurable intoxication of Indian hemp was present in a feeling of happiness and excitement. Soon, however, she complained of dizziness and went to sleep. On awaking the next morning she was herself. The druggist assured me that no mistake had been made and that a similar preparation was sent to another person who took it without the least symptom of intoxication. I quite agree with Mr. Roche that some people are more susceptible to the action of the drug than others, in spite of the variation in strength of the official extract or tincture, and it would be better to begin with very small doses to test the patient's tolerance of it.

I am, Sirs, yours faithfully,

ANTONIUS J. MANASSEH.

Brumana, Beyrout, Jan. 10th, 1899.

"REGINA v. REICHARDT."

To the Editors of THE LANCET.

SIRS,—Referring to Dr. Goodhart's remark, "I will not take up your space by discussing with Mr. Sers 'what constitutes insanity,'" I can assure this gentleman that I am better engaged on this occasion and have nothing whatever to do with the subject beyond what is involved in the legal aspects of the case. As I gather from Dr. Goodhart's letter he claims for certain privileged persons a kind of moral right to break the law—at least, he appears to see no reason why cases of temporary insanity should not be treated in uncertified houses; but if so, what is the use of legislation on the subject? The point I intended to bring before you is one of extreme simplicity. Dr. Reichardt, as I understand, received a patient suffering from some indefinite form of nervous disease which resulted in suicide. I submit therefore a *primâ-facie* case presented itself that the law was being tampered with. I say a *primâ-facie* case was created to this effect and how could the case be decided on its merits without resorting to a court of law? The fact that the case had been seen by Dr. Savage, Dr. Goodhart, and Mr. E. C. Kingsford who pronounced it unripe for an asylum I further submit was not sufficient reason for deterring the Commissioners from taking legal proceedings, otherwise the administration of the law with regard to the control of insane persons would practically be at the caprice and mercy of private individuals; and although, of course, the *bona fides* of these gentlemen is unquestionable—and I say this with perfect sincerity—the fact of the case having been seen by the aforesaid gentlemen and considered unfit for an asylum is not sufficient reason for keeping the law in a state of inertia, otherwise there is no guarantee that on any future occasion men of equal integrity might be concerned and as an ultimate consequence of establishing such a precedent a refined system of covering or evading the law might be thereby created.

I am, Sirs, yours faithfully,

CLEMENT H. SERS.

Queen's-road, Peckham, S.E., Feb. 18th, 1899.

THE ROYAL MEDICAL BENEVOLENT COLLEGE, EPSOM.

To the Editors of THE LANCET.

SIRS,—The appeal to the general public made by the treasurer of the Royal Medical Benevolent College at the end of last year appears to me to be well founded.

How many practitioners sacrifice their lives in the service of the public before they have had time to save. Dr. Holman asks for no help for the school, but urgently asks for aid in getting together the £6000 he has to find each year for the Council to spend on the aged pensioners and young foundation scholars. The appeal although addressed to the public in no way does away with the claims of this institution to the support of the profession. A perusal of the annual report tells a miserable tale of the scant support the College receives from medical men. Who can tell how soon misfortune may overtake a practitioner? Would it not be well even as a small insurance to subscribe to the College and thus to constitute a claim if necessity should arise to reap some of the benefits now offered but which might be so largely extended if money was forthcoming?

I am, Sirs, yours faithfully,

M.D.

"DIFFICULTIES UNDER THE NEW VACCINATION ACT."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of March 4th two gentlemen write on the above subject. One says: "Private practitioners have the game in their own hands. They have simply to take care that all their cases are vaccinated or accounted for to the vaccination officers before they are four months old." The second says: "Because your correspondent's patients and *themselves* [the italics are mine] do not comply with the law they try to make the public vaccinators answerable." May I ask what these gentlemen mean? It is, I think, the usual practice with private practitioners to vaccinate or sign postponement certificates only when the children are submitted to them. Both these gentlemen seem to imply that it is part of private practitioners' duty to either call upon the parents of such children as they have brought into the world without being sent for or to send them a reminder before the child is four months old as to the law on the matter. To take either of these steps would be offensive to most medical men, I think, and might lay them open to the charge of touting. Besides, it is no part of their duty and however the public vaccinator may be bound by the law the omission of these steps in no way justifies your second correspondent in saying that the medical attendant "has not complied with the law"; the parent may not have complied, but the new Act imposes no obligation whatever upon the medical attendant.

General practitioners have considerable justification for feeling sore on the point. Etiquette towards a professional brother is violated by visiting and "offering to vaccinate" his patient. It may be the law, but I should not care to carry it out and visit another man's patient in defiance of the ethics of the profession.

I am, Sirs, yours faithfully,

March 4th, 1899. GENERAL PRACTITIONER.

To the Editors of THE LANCET.

SIRS,—Mr. T. F. I. Blaker must pardon me when I suggest that he has not quite grasped my argument and that that is why he finds my letter "silly." He simply begs the question when he justifies the public vaccinator as one "doing his duty." I say that to call on strangers and offer professional services is work that no professional man ought to undertake. It is only his "duty" inasmuch as he has voluntarily undertaken it. The medical officer of a canvassing medical aid society might as well plead that it was his "duty" to countenance canvassing and he might even say that the society was recognised by Act of Parliament. Parliament is no supporter of, but rather opposed to, our ethical laws. He must also pardon me for objecting to his suggestion that we must play the game by paying unasked visits ourselves and so defeat the public vaccinator. It is this very calling on people who have not requested our services that I think so undignified and unprofessional. Such visits would be very

irksome to me, and I hope they will be so to all public vaccinators; that is all the "trouble" I wish these officers.

"Fairplay," in spite of his strongly worded opinion which is useless in an anonymous correspondence, gives away his side entirely. He says, "There is nothing interfering with professional etiquette if the law is complied with," clearly implying that if it is not complied with there is such interference. But it is the *parent's* duty to comply with the law; it does not in any way bind the private practitioner, so if through ignorance or neglect the parents do not comply with the law "Fairplay" practically confesses that the public vaccinator will act in a way "interfering with professional etiquette." That exactly expresses the view I hold. The truth is "Fairplay's" common-sense is too strong for his partisanship. His new reading of the 24 hour rule again allows his true opinion to escape. Of course it ought to be made clear to the public vaccinator that his services are desired before he calls, but in spite of his efforts to do so I am sorry to say "Fairplay" cannot read this into the Act. As to "Fairplay's" last argument, it would no doubt be unfair for a solicitor to abuse a policeman for arresting one of his clients, but I think he would justly blame a brother solicitor who so far forgot the dignity of his profession as to accept the duties of a policeman, and he would be still more indignant if he suspected that his rival was using the policeman's office to win clients. This is the true reading of "Fairplay's" analogy, and I believe he felt that the public vaccinator was playing the unworthy part of a policeman when he thought of the comparison. The schoolmaster is no analogy, for he does not and would not call upon defaulting children. "Fairplay" will not find an analogy in any other profession, for their members have too much self-respect to accept similar duties.

With apologies for such a long letter,

I am, Sirs, yours faithfully,

March 6th, 1899. P. P.

OXYGEN IN PNEUMONIA.

To the Editors of THE LANCET.

SIRS,—Now that the calamity which loomed over the English-reading world is happily no longer formidable, may I as an old-fashioned practitioner of medicine be pardoned for asking the following questions? 1. What proof is there that crude oxygen when used as a remedy in pneumonia ever reaches the blood? 2. Assuming that an augmented intake of oxygen leads to an increased absorption, would not a similar end be gained by directing the patient to respire in double quick time, after the manner recommended some years ago as a universal panacea by General Drayson, R.A., in the *Nineteenth Century Magazine*? 3. Is it not possible, or even probable, that in pneumonia artificial oxygen should act as a direct irritant on the unaffected portion of the lung tissue, thus favouring the spread of the inflammation and prolonging the duration of the disease? 4. Can it be that oxygen in lung affections will turn out to be one of those remedies to which a distinguished physician referred when he was recommending his pupils to be sure and make use of them while they were still capable of effecting cures?

I am, Sirs, your obedient servant,

March 3rd, 1899. A RETIRED SURGEON.

*** The use of oxygen in pulmonary affections—e.g., bronchitis—is by no means new. It was employed by Dr. (afterwards Sir) B. W. Richardson more than twenty years ago.—ED. L.

EXETER DISPENSARY.—The annual meeting of this institution was held on Feb. 28th under the presidency of Mr. A. J. Mackey. The report stated that 6144 cases had been treated during 1898, being a decrease of 174 on the preceding year. The financial statement showed that legacies to the value of £1970 had been received and that a favourable balance of £38 remained. A discussion occurred as to the advisability of increasing the area of the home-visiting of patients by the medical staff. Dr. Davy drew attention to the fact that all the medical staff were honorary and recommended that a salaried medical officer should be appointed to visit patients. On the motion of Canon Hobson it was decided to refer to the committee the advisability of Dr. Davy's suggestion.

THE BATTLE OF THE CLUBS.[1]

(FROM OUR SPECIAL COMMISSIONER.)

WESTON-SUPER-MARE (*concluded from p. 621*).

ONE of the general practitioners at Weston-super-Mare explained to me that some 14 years ago he came to this town, having bought a small practice estimated at £300 a year. This practice included the post of medical officer to the Liverpool and Victoria Legal Friendly Society. At that time he was quite ignorant as to what this sort of work involved, but when he found out he at once began to agitate against such a system. His employers thereupon selected another medical man in the town and transferred all the members of the Liverpool Society to him. In a very short time, however, their new medical officer likewise rebelled against their mode of procedure, so the Liverpool Society imported another medical man into the town. This their third officer failed to give satisfaction and the society was now obliged to advertise for someone to replace him. In answer to this advertisement they got a fourth medical man, but he only stayed three weeks, and then they had to advertise again. This time they got "a strong man," but they seem to have "caught a Tartar." This the fifth medical man who in a very brief period had been engaged by the Liverpool Society had come from a considerable distance. He was energetic and able. He did the work well and gave satisfaction to the patients, but I am told he was not long in the town before he began to organise a rival club of his own and that he employed a young woman to canvass for him who went about collecting 1½*d.* per week from the persons whom she persuaded to join the medical man's own private club in preference to the Liverpool Society. In her active canvass this young woman did not fail to create some irritation among the better class patients who resented her importunities. Thus this medical man while working well for his employers of the Liverpool Society was also competing against them. The other practitioners in the town rose in indignation against him. They took advantage of his connexion with a purely speculative and commercial company and made this the basis of their attack. Meeting together they agreed to draw up a letter in which they qualified the newcomer's connexion with the Liverpool Society as unprofessional and declared that they would not meet him in consultation, &c., so long as he held this appointment. This action of the members of the medical profession caused considerable agitation in the town.

After a while and as his position became more and more unpleasant the medical officer of the Liverpool Society resigned his appointment. In the meanwhile the medical men practising at Weston-super-Mare had, as already described,[2] formed themselves into a union. They now approached the canvasser who had been working for the Liverpool Society. They pointed out to him that after all that had occurred it would be extremely difficult for this company to get another medical officer. If therefore he would consent to leave them the medical men of the town would start a medical provident organisation of their own and employ him at a fixed salary as their collector. He would not have to do any canvassing or touting, which is always unpleasant work and which was contrary to the principles of the Medical Union, but would only have to collect subscriptions due. This offer was accepted, and the Liverpool and Victoria Legal Friendly Society, having thus lost both their medical officer and their canvasser, was fairly beaten out of the field and since that day has disappeared from Weston-super-Mare. This is a signal victory and triumphantly demonstrates what can be done by a united effort. At the same time the employment of the young woman to canvass for the private club of the Liverpool Society's former medical officer was also given up, but the private club still exists and the Medical Union is somewhat puzzled as to how to deal with it and its medical officer. This, indeed, is the only element of discord that still exists among the medical men of the town.

The Provident Medical Association which thus arose out

[1] A reprint of the previous articles on the above subject has been published in book form entitled "The Battle of the Clubs," and can be obtained from THE LANCET Offices, price 1*s.*

[2] THE LANCET, March 4th, 1899.

of the ashes of the Liverpool Society is based on the following principles. First, all medical practitioners in the town are eligible as members of the medical staff and thus the danger of creating a monopoly is effectively guarded against. All officers of the association, such as chairman, secretary, treasurer, and committee of management, &c., are elected annually. All members of the medical staff are on the committee of management and there is for working details a business sub-committee consisting of the secretary, the treasurer, and not less than three other members of the committee of management. These latter are appointed quarterly. This sub-committee meets at least once a month and more frequently when necessary. The committee of management meets once a quarter but may be convoked more frequently at the written request of three members of the staff. All notices convoking meetings of committees must state the nature of the business to be discussed. The election of members of the staff is by ballot; a two-thirds vote is necessary and the candidate must be proposed and seconded by members of the staff. Members of the profession who start practice at Weston-super-Mare without introduction cannot be elected to the association during the first year of their residence in the town, but if a member of the association or his representatives transfer his practice his successor is immediately eligible if he conforms to the rules. Of course, no medical practitioner who has been guilty of infamous conduct or other objectionable practice in a professional sense can be elected. The following important rules are worth quoting textually:—

> The members of the medical staff bind themselves not to undersell any of the present medical officers of existing or future clubs and not to countenance any medical practitioner who does so.
>
> No medical practitioner shall be eligible for election to the medical staff of the Provident Medical Association who subsequently to the foundation of the original staff shall have had any connexion whatever with medical aid or similar societies unless he can satisfactorily explain his position to the committee at the next quarterly meeting.
>
> No member of the association shall meet in consultation any medical man who subsequently to the formation of the Provident Medical Association practises in the town as medical officer to any medical aid or similar society.
>
> No member of the medical staff shall hold a private club. This rule is not intended to apply to what are usually understood as individual contract patients.
>
> An additional object of the association shall be to safeguard the interests of the medical practitioner, to promote fair and honourable practice, to prevent abuses in the medical profession, and finally to encourage friendly relations between medical men in the district.

This last rule it will be seen embraces all the elements for the formation of a fighting union destined to defend the economical interests of the profession. Should any serious cause of complaint arise against a member of the medical staff a special meeting of the committee is to be convoked and the person concerned is to be informed by registered letter of the details of the charge. Such charges must be brought forward by at least three members and if proved to the satisfaction of at least three-fourths of the members of the committee of management the offending party can be expelled from the association. All members of the association have to subscribe £2 towards the working expenses and to give a guarantee of £3 more if needed. The money is deposited in a bank, but all current expenses are paid during each quarter. Accounts are presented at each quarterly meeting. If there is a balance in hand £2 per member of the medical staff is to be kept in the bank as a reserve fund, after, of course, due provision has been made for all known liabilities. When this has been done, if there is still a surplus in hand it is divided among the medical staff so that each member receives a part of such surplus that is in proportion with the sum which the members on his list have subscribed to the association. The great point is that an effort has been made to insist, so far as practicable, on the principle that all members, whether they be men, women, or children, should pay a penny per week. This rule is based on the undoubted fact that women and children require more attendance and medicine than men. There is, as a rule, no entrance fee. A charge of 2*d*., however, is made for the subscription card unless the member is over 60 years of age and then an entrance fee of 2*s*. 6*d*. is levied. Persons who are not members and only seek to become members when they are ill are immediately admitted on payment of 10*s*. 6*d*. This subscription should be paid before the first visit of the medical officer. If not the collector must call within 24 hours and if it is not paid within another 24 hours the patient is not accepted as a member of the association. Persons suffering from chronic complaints are charged an extra weekly premium which is fixed by the committee according to the nature of the case. The premiums may be paid weekly, monthly, or quarterly in advance, but anyone who is more than six weeks in arrears will not be entitled to benefit. Members who are unable to attend at the medical officer's house must, if possible, send before 9.30 A.M., and emergency visits between 9 P.M. and 9 A.M. are charged 6*d*. extra. Nor does membership wholly cover the cost of surgical operations or of surgical appliances. Administration of anæsthetics and consultation with any other medical man are also charged extra. Special arrangements must be made with the medical officer for confinements, miscarriages, and vaccinations; nor does membership cover illness brought about through vice, intemperance, or immorality. The consultation fees are the property of the consultant and must be paid directly to him, but if this cannot be done the collector may collect them by such instalments as may be fixed by the consultant. Extra fees paid for confinements, miscarriages, accidents, and surgical operations are the exclusive property of the member of the staff attending the patient. In such cases the cost of medicines, surgical apparatus, &c., shall not be defrayed out of the funds of the association.

The question of medicines had next to be decided. The Provident Medical Association could not open a dispensary of its own for want of funds. This can only be attempted when there are a great number of members and a large income. Each member of the staff might have been left to dispense his own medicine, but this does not suit medical men who only give prescriptions. Consequently contracts were entered into with dispensing chemists of the town. All qualified chemists and druggists were admitted subject to the approval of the committee. A pharmacopœia was drawn up by the committee and approved by the druggist, the latter undertaking to provide only drugs of the best quality. The patients have to supply their own bottles and jars. Eight dispensing druggists accepted these terms, the members are free to select any whom they prefer, and the treasurer pays 1*s*. per annum to the druggist for every member on his list. The payments are effected quarterly, 3*d*. per quarter per member. 16 practitioners are now on the medical staff and the members may select from this list the medical attendant whom they prefer unless the member of the staff has as many subscribers on his list as he can conveniently attend and this is already the case with five out of the 16.

Such are the principal rules of the Provident Medical Association so far as its administration is concerned. With regard to the prevention of abuse the main points are the establishment of a wage limit, the refusal to accept children as members at ½*d*. per week, and the prevention of monopoly by accepting on the medical staff all resident and qualified practitioners. Of course, in fixing a wage limit great difficulties have arisen. Account had to be taken of the fact that at Weston-super-Mare there are hardly any workmen's houses. Cottages at 4*s*. or 4*s*. 6*d*. per week are not available. The rent of nearly all the poorest cottages is from 7*s*. to 9*s*. a week. Thus even workmen have to pay from £15 to £25 a year for rent and the taxes largely increase this sum. Under these circumstances the wage limit for a family is fixed at 35*s*. per week; but outside the town boundaries at Uphill, where rents are much cheaper, the wage limit is 25 per cent. lower. To enforce the wage limit it was at first decided that the honorary secretary should make special inquiries with regard to the income of each applicant. In a short time, however, such an undertaking was found to be far too burdensome. It was then agreed that each member of the medical staff should make investigations with regard to such subscribers as were on his own list. As a rule, of course, the members select for their medical attendant a practitioner with whom they are already acquainted; thus the medical officer knows something of most of the persons on his list even before he begins to make inquiries and it is for him to safeguard his own interests by preventing abuse. But in this there is always the great difficulty that in such a place as Weston-super-Mare nearly everyone lets lodgings. Even in the poorest back streets very high prices are paid for lodgings during the months of July and August. If rooms are let for only three or four weeks in the year this makes a considerable difference. In a poor back street as much as 30*s*. per week can be obtained for two small bedrooms and one sitting-room during the two favoured months of the year. Nevertheless, the letting of lodgings is such an uncertain and hazardous matter that it is not practicable to include the income which may result in fixing a wage limit.

The Provident Medical Association has now been in

existence two years and there are at present 456 members or subscribers on its books. This is but a small number; on the other hand, the medical staff is not so anxious to have a large number of subscribers as it is anxious to prevent abuse. Also the number of members is increasing in a marked manner. Thus, comparing the last quarter of the second year with the first quarter of the same year it will be found that the increase of members is equal to 28 per cent. Nevertheless, the fact that there are so few members is a very serious matter, for how can the general expenses be met with so small an income? It is true that these expenses are at present very slight. The collector is paid only 7*s.* 6*d.* per week; all the rest of the work is done gratuitously and the cost of postage amounted to only 2*s.* during a whole quarter. In spite of this the medical staff have not received more than from 54 to 55 per cent. of the money paid by the subscribers. This is less than half-a-crown per annum per member on their list, and 3*s.* per annum per member can easily be obtained from an insurance company or from a benefit society. The loss that this difference represents will be willingly endured for the sake of the cause for at least a few years, but it would not be wise or fair to expect the whole of the profession to make such a sacrifice for an indefinite period. Energetic measures must therefore be taken to place the Provident Medical Association on a sounder financial basis. Of the 4*s.* 4*d.* paid by the members 1*s.* goes to the druggist, and of the remaining 3*s.* 4*d.* the collector's salary, printing, postage, and other expenses reduce the balance to less than 2*s.* 6*d.*

There is, fortunately, an obvious solution to this difficulty. By bringing to bear the necessary pressure by the united action of the entire medical profession of Weston-super-Mare it should not be difficult for the Provident Medical Association to take over the provident dispensary connected with the hospital. This latter institution is in an anomalous position and constitutes in itself a crying abuse. Indeed, it is difficult to see in what this dispensary differs from the clubs, the benefit societies, or the insurance companies which have been so warmly denounced on all sides. As already stated, the income derived from subscribers amounted last year to £356 and out of this only £87 6*s.* 9*d.* was paid to the medical officer and £5 5*s.* to a locum tenent. Together they did all the medical work. For this total of £92 11*s.* 9*d.* no less than 6334 visits were paid to patients in their own homes, not to mention the far larger number of patients who received advice at the dispensary. Thus, if no allowance at all is made for the large number of patients seen at the dispensary, the above sum is only equal to a little over 3¼*d.* for each visit made at the patients' houses. As a rule the patients who go to a dispensary are two or three times as numerous as those who have to be seen in their own houses. On this basis the dispensary medical officer would scarcely receive more than 1*d.* per consultation whenever given. Considering that the hospital makes a profit of about £100 out of all this badly paid work the hospital dispensary may well be qualified as a "sweating" institution. As previously stated, the payment made over last year by the dispensary to the hospital amounted to £179. Even if we allow £79 for drugs and as rent for the use of premises at the hospital there remains £100 net profit, and it is difficult to see on what grounds the hospital can be entitled to this profit sweated out of the labour of the dispensary medical officer. The subscribers who pay the money have no voice in the disposal of the profits which result from their payments. If they had the spirit of organisation they could leave the hospital, hire premises elsewhere, and keep their profits for themselves.

The grievance, however, does not consist merely of sweating a profit out of an underpaid medical officer, the hospital dispensary competes disastrously against the Provident Medical Association and injures the interests of the profession throughout the town. It accepts children at ½*d.* per week and does not impose a wage limit. It is true that of late a few well-to-do persons have been struck off the books, but this is a mere dabbling with the grievance. Last year there were no less than 2279 subscribers to the hospital dispensary, of whom 1210 were children. The admissions of new members were 488 in 1898, as opposed to 399 in 1897, so that the evil is not decreasing. To the suggestion that the hospital dispensary should be abolished two principal objections are raised—firstly, that the hospital is short of funds and could not afford to lose the £100 or so profit that it makes out of the dispensary. On the other hand, the existence of this dispensary occasions a good deal of resentment against the hospital among the members of the profession. This feeling could be easily removed and in exchange the medical profession could undertake to use their influence so as to increase the subscriptions and donations made to the hospital. Such increase would more than compensate the loss of the profits derived from the dispensary. The second objection is that if the hospital was abandoned there would be some 2300 persons available for some insurance company to canvass. But in answer to this it is urged that as such an insurance company was broken up when the medical practitioners of the town were not so united and well organised as they are at present a second victory would therefore be more easy to win than the first. Of course, to this it may be urged that the first victory was due as much to good luck as to the strength of the medical organisation. But certainly the moment the hospital consents to give up its provident dispensary the Provident Medical Association should be organised and ready to take over the subscribers who belonged to the hospital provident dispensary. No interval should be allowed during which some outside insurance company could step in. Thus it will be seen that the obstacles are not very great. The medical staff of the hospital are all members of the medical union and it would be impossible for the hospital to refuse a demand made by all the medical men of the town. Nor is there any reason why the committee of management of the hospital should refuse since it would lose nothing and would, on the contrary, get rid of the discredit of running a sweating institution.

The Medical Provident Association has not got 500 subscribers, but by abolishing the hospital dispensary it may increase its membership to more than 2000 and thus acquire a sound financial basis which it does not at present possess.

Weston-super-Mare, March 5th.

THE BRADFORD AND WEST RIDING MEDICAL UNION.

This union appointed a committee to draft a set of by-laws, rules, a tariff, and the like. The draft report was submitted to a meeting of the union held on March 2nd and approved of. Besides the ordinary rules for the conduct of a society there are resolutions forming a code of medical etiquette which are sensible without being faddy. In Part VI., suggestions for a scale of fees, we find the following: "It is a responsibility ..... to endeavour to secure and maintain a fair and generous standard of fees. ..... This cannot be effected merely by raising the minimum charges of practitioners. ..... The general standard is ruled by the average fees charged by the leaders of the profession in any locality." Then follows a standard table of minimum fees calculated on the usual basis of rental. We are glad to see that the minimum club tariff is at the rate of 4*s.* per member per annum.

MEDICAL ATTENDANCE IN THE DURHAM COALFIELD.

We have upon previous occasions[1] commented on the relations between miners and their medical men not only in the Durham coalfield but also in the Welsh coalfield. The matter in the Durham district has reached a rather acute stage, for we see from various paragraphs in the *Newcastle Daily Chronicle* that many miners' associations have decided to refuse the demand of the medical men for a rise of 50 per cent. in the subscriptions. An editorial article from the same journal points out with great force that the miners are in an "awkward predicament."

> They cannot dispense with medical attendance. They cannot import cheap medical labour from outside, because to do that would be to descend to measures which the basest and most brutal capitalist does not now dare resort to; nor can they employ any person who is not a member of the medical union, because that would be to encourage the blackleg. The blackleg, we know, is so odious to trade unionists that no self-respecting unionist pitman will descend the mine with him or even pray in the same chapel with him. The only way out of the deadlock that we can see is for the miners to pay the extra 50 per cent. and thank God that trade union principles are extending.

This is common-sense. It may be very fine argument to say that the consciousness of duty done will repay a medical man for all his toil, but this feeling, though praiseworthy, will not feed or keep the practitioner, and not even the most grasping income-tax commissioner would assess such consciousness under schedule D.

The matter is being fully discussed in the local newspapers

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[1] THE LANCET, Nov. 12th and Dec. 24th, 1898, and Feb. 4th, 1899.

and in the *Newcastle Daily Leader* of March 7th is a very temperate letter from, we presume, a miner. This gentleman whose name is James Henderson advises his fellow miners to meet the medical men in a friendly spirit and to try to arrange matters amicably. This is very sound advice. The miner is as a rule a hard-headed and sensible man and so is the medical practitioner, although there are exceptions on both sides. In another letter attention is drawn to the practice which seems to prevail of a practitioner or firm of practitioners keeping numerous assistants simply to do the colliery work.

MEDICAL ATTENDANCE IN THE WELSH COALFIELD.

In our issue of Dec. 24th, 1898, we mentioned the formation of the Eastern Valley Medical Association and its demand that the terms upon which medical assistance was guaranteed should be raised. Most of the works and collieries in the district have already granted an increase of 1*d.* in the £, but Cwmbran Colliery has refused this rise. Therefore the medical man in charge, Mr. C. S. Bowker, has resigned. The following resolutions were passed at a meeting of the association held on March 4th:—

1. Proposed by Mr. R. W. Haslett and seconded by Mr. S. B. Mason that the secretary write to various medical societies requesting them that in the event of an advertisement appearing for the position of surgeon to any colliery or works in the Eastern Valley, and especially the Cwmbran Colliery, they will use their influence to dissuade intending applicants for the appointment.
2. That intending applicants for the vacant post be requested to communicate with the honorary secretary of the Eastern Valley Medical Association, Mr. A. B. Avarne, Crossfield House, Blaenavon, Mon.

*** We have up to the present treated the question of the pay of colliery surgeons in another column. As the question has now assumed a phase of strife between the medical unions and the miners' unions we have transferred it to the present heading.—ED. L.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

Further Experiments with Curative Serum.—The Plague Commission.—The Improvement Trust and the Housing of the Poor.—The Progress of the Plague.—The Indian Subordinate Medical Service.—Opposition to Inoculation at Hyderabad.

THE latest experiments with regard to plague curative serum do not throw out much hope of success. Two kinds are now being tried in Bombay. About 25 cases have been inoculated with Roux's serum received from Paris and a similar number of cases have been taken as controls. The results so far do not show any advantages among the injected cases. The mortality in both series has been high. About 30 cases have been inoculated with Lustig's serum which has been prepared by Dr. Galeotti at the laboratory in Bombay. The results here, also, are equally doubtful. Little or no improvement is shown in the mortality, but to those who survive some benefit is thought to accrue in the lessened tendency to suppuration in the glands. No comparison can be made with the average of cases admitted to hospital because moribund cases are for the most part excluded in these experiments. One is loth to report that no appreciable benefit can be detected in this form of treatment of plague.

The Plague Commission has been taking evidence at Baroda. Mr. A. D. Cooper, the health officer, stated that plague in a mild or modified form was present along the Konkan Coast at Revadanda and other places in North Konkan for some years before its presence was officially recognised in Bombay. Cases of painless general lymphatic enlargements with and without fever were also observed in Bombay but as the significance of the phenomenon was not recognised no notes have been kept by the observers. In Calcutta, he said, cases of this description had also given rise to great difference of opinion. Plague appeared in Baroda in the latter part of 1896 brought by a patient to Kharvawad from Surat. He had found that nearly two-thirds of the total deaths from plague escaped detection which shows the great difficulty of working in the midst of an ignorant, obstructive, and secretive populace and also marks the necessary limitations of a body of men working in the midst of a large unwieldy population. He also referred to the occurrence of cases of plague in houses which had been thoroughly disinfected by perchloride of mercury. He held that quarantine and watching and restricting the movements of the people should be done away with as being inadequate for the purpose of protection and therefore unjustifiable. With regard to the deaths of monkeys he had made the observation that these sagacious creatures left off frequenting the neighbourhood where they found plague. As regards the bottles of prophylactic serum he noticed a copious granular sediment almost invariably. On removal of the cork a foul putrescent smell was discernible—a smell very much like that of putrefying meat—but no living organisms were detected microscopically, not even sarcinæ. The sediment showed some inorganic crystals and some irregular forms of matter which imbibed the stain of aniline blue. Other evidence reported is of no interest.

The district of Bombay which is to be razed to the ground under the Improvement Trust Scheme had a death-rate in 1896 of 40·42, in 1897 of 59·10, and in 1898 of 61·61. Concerning the displacement of the population on which much apprehension prevailed the chairman has announced that the board would build accommodation for the poorer and working classes occupying premises actually on the line of the proposed streets or sanitarily unfit for habitation and that such accommodation will be provided where possible *in situ* or in the vicinity, but encouragement will be given to the population to spread by also building in the northern suburbs.

The plague shows no sign of abatement. There has been a further development in Bombay city and a rise in the Belgaum and Bijapur districts. At Karachi it shows signs of spreading slowly and steadily, cases having occurred in as many as seven quarters of the town. An increase is reported in the Madras Presidency also at Anantapar and North Arcot. Also in Mysore city five plague deaths have occurred at Jullunder in the Punjab and two suspected cases have been discovered in Calcutta. In the Kolar Gold Fields it is rapidly increasing. For the past week 2228 deaths have occurred in the Bombay Presidency, of which number 543 are recorded for Bombay city. 1000 would more nearly be the correct number. An examination of the excess of deaths over the average of the three years preceding the plague outbreak shows that in Bombay city probably over 60,000 persons have died from plague. The official figures, however, are much lower.

The Indian Subordinate Medical Department is admittedly undermanned, the members bear great responsibilities and the work is onerous, but the Government of India has sanctioned a scheme of changes in the conditions of service of the members of its Military Assistant Surgeon Branch. Excluding the commissioned ranks, military assistant surgeons are divided at present into the following classes: Third class, Rs. 50 per mensem; second class, under five years' service, Rs. 85 per mensem; second class, above five years' service, Rs. 100 per mensem; first class, under five years' service, Rs. 150 per mensem; first class, above five years' service, Rs. 200 per mensem. The service will henceforth be divided into four classes on the following rates of pay, the existing class on Rs. 50 being abolished: Fourth class, Rs. 85 per mensem; third class, Rs. 110 per mensem; second class, Rs. 150 per mensem; first class, Rs. 200 per mensem. In lieu of the present system of promotions to fill vacancies in each class a service of five years in the fourth class and of seven years in the third and second classes respectively will entitle an assistant surgeon to promotion to the next higher class. He will thus ordinarily reach the first class on Rs. 200 after a total service of 19 years, instead of 24 years, the present average. These new regulations will have effect from the commencement of the next financial year. This department is largely recruited from the Eurasian sons of European warrant and non-commissioned officers, and it offers a very fair career for them. The *personnel* of the department being scanty the work is laborious. It is said that in every military hospital two men are doing the work of three. Very little leave also is obtainable. On the whole, however, the service is a satisfactory one.

Plague shows no signs of abatement in Hyderabad territory, but fortunately its ravages are exclusively confined to remote villages. It is said that very strict measures are being adopted with the hope of preventing its incursion into Hyderabad city. Official opposition to inoculation is still very pronounced. In consequence of some of the bottles of the prophylactic which were sent to Hyderabad having been found to have "gone bad" the medical authorities there have thought fit to condemn inoculation wholesale

and to describe Haffkine's fluid as "a putrescent organic liquid." They appear to shut their eyes to the results obtained elsewhere, but deign to withhold their opposition to the use of it after it has been sterilised in the laboratory of the Hyderabad Medical School. The preparation, storage, and distribution of this material doubtless require very great care and it is known that occasionally a bottle of it has been found to have undergone change. The fault, however, does not necessarily lie with the distributing laboratory in Bombay and it is quite possible that scientific precautions may not have been exercised in its use. To tamper with it in the Medical School at Hyderabad is wholly unjustifiable. Specimens as to which any doubt exists should be discarded. Studious precautions are practised in the laboratory at Bombay and the fluid is sent out fit for employment. There have been very few untoward results following its use. With some operators abscesses are not uncommon but there is every reason to believe that they are avoidable. At any rate, the fault does not necessarily lie with the serum. With regard to the prophylactic serum your readers will find further particulars in THE LANCET.[1]

Feb. 11th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Measles and the School Board.

AT the meeting of the Manchester School Board a fortnight since great dissatisfaction was expressed at the action of the Sanitary Committee of the corporation with regard to measles. A report was presented by the Office Committee as to the closing of the schools by order of the Sanitary Committee of the City Council on account of the prevalence of measles and the serious effect such action was having on the school attendance. During 1897 no less than 39 schools, of which 24 were voluntary schools, were closed. In Manchester the rule at present is for the medical officer to close a school when the actual cases of measles exceed 10 per cent. of the average attendance, and this, the report urged, was going beyond the recommendation of the Local Government Board. It was contended also that schools were being closed as a matter of routine and unsuccessfully as regards preventing the propagation of disease. It was stated that in Birmingham, Bristol, Huddersfield, Hull, Liverpool, Salford, and Sheffield schools were not closed on account of the prevalence of measles and nowhere did the practice obtain to anything like the extent which it did in Manchester. The disease has been very prevalent here of late years and "the attempt to cope with the disease by the frequent closing of schools had not succeeded." A circular issued by the medical officer of health, dated Feb. 16th, recommending the exclusion from school "of every child showing symptoms of a cold" would, if acted on, the report held, in inclement weather nearly empty the schools. The report said that "in the opinion of the committee the solution of the problem of how to prevent the spread of epidemic sickness in schools lay in the rigid exclusion of individual cases." The prevention of the spread of measles will certainly require the harmonious working and the best efforts both of the board and the medical officer. The chairman of the board deplored any conflict with the sanitary authority but "maintained that it was the duty of the board to ascertain from the Education Department and the Local Government Board" the right course to take.

Generous Offer to the Manchester Hospital for Consumption.

At the annual meeting of the Manchester Hospital for Consumption and Diseases of the Chest and Throat, held in the town-hall on Feb. 22nd, the medical board reported that in the out-patient department there were 33,664 attendances, the number of new patients being 10,914. The 50 beds at the Bowdon Hospital for in-patients were constantly occupied and "before many months passed it was anticipated that the Liegehallen system of open-air treatment would be in full working order." The Lord Mayor, in moving the adoption of the report, said that they were doing their best in Manchester to prevent the sale of milk from tuberculous cows and had inserted clauses in the Corporation Bill for that purpose, and as Lord Mayor he should make it his duty to see how far they could carry the clauses in question. Dr. A. Ransome, now of Bournemouth but formerly one of the staff of the hospital, gave an address on the Prospect of Abolishing Tuberculosis, in the course of which he said that the disease was to be abolished "by stopping the presence of the seed by taking care that no susceptible persons should be found in the community, and, above all, by rooting out what he had ventured to call tubercle nests in all great towns and especially, he was sorry to say, in Manchester. Practically, then, they would have to renovate the town." He wished the admirable by-laws of Liverpool and London dealing with obstructions of light could be adopted for Manchester. The gradual renovation of the town can be brought about if the requisite money can be found, but the getting rid of the susceptibility to tuberculosis is a more difficult matter, for the human factor comes in with its varying degrees of ignorance, stupidity, and helplessness. Mr. W. I. Crossley, chairman of the board, in moving a vote of thanks to the Lord Mayor and the Lady Mayoress said that they had 50 beds at Bowdon but there was no room for more, "therefore it was proposed that 100 beds should be put up elsewhere and money was offered for that purpose if Manchester would guarantee to support the beds." It is an open secret that the chairman himself makes this munificent offer to build a hospital of 100 beds if Manchester will maintain it, and surely the citizens who can easily raise the £3000 or £4000 a year required will not fail to provide what will be paid back in the increased health and well-being of the community.

A Tragedy Averted.

It rarely happens that anything humorous lights up the gloom of attempted suicide; but yesterday at the Manchester police-court a man was brought up who after a quarrel with his wife sent a son for sixpennyworth of carbolic acid which was refused to him. He was then sent for sixpennyworth of chlorodyne but with the same result. The prisoner then went himself to the druggist's shop and asked for sixpennyworth of chlorodyne but received instead a bottle containing a halfpennyworth of carbolic acid with a liberal quantity of water. The man went home, took the dose, and kissed two sons, saying that he was leaving them as he had taken poison. Then he kissed his wife who was brought in from a neighbour's house and bade her good-bye. He refused to take an emetic and the policeman who was called in thought he was "rather lively" for one who had taken poison. When asked he said that he had taken "sixpennyworth of chloride of lime." The prisoner had taken a little drink as well as a little poison. The druggist whose suspicions had been roused by a young boy coming for carbolic acid and then for chlorodyne was complimented by the bench on his shrewdness and the prisoner was remanded for some days to give him time for reflection.

March 7th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

St. Andrews University.

MR. T. G. NASMYTH, M.D. Edin., D.Sc., D.P.H., medical officer of health of Fifeshire, has been appointed examiner in Public Health for St. Andrews University.

The Will of the late Professor Rutherford.

Professor Rutherford in his will bequeaths to the Medical Faculty of the Senatus of the Edinburgh University his portrait on porcelain by Barraud and Jerrard; to the Senatus Academicus all the diagrams used by him in the physiological department, to remain in that department in charge of the Professor of Physiology, and also all his books and journals relating to physiology, histology, anatomy, chemistry, physics, natural philosophy, and pathology, on condition that they are to be placed in the physiological department in charge of the Professor of Physiology or Institutes of Medicine to assist him in the work of teaching and examination.

Edinburgh Royal Infirmary.

At the weekly meeting of the managers of the Edinburgh

[1] THE LANCET, Feb. 27th, 1897, p. 604; March 13th, 1897, p. 767; March 27th, 1897, p. 907; April 3rd, 1897, pp. 976, 981; July 24th, 1897, p. 228; August 7th, 1897, p. 353; and Dec. 11th, 1897, p. 1548.

Royal Infirmary, held on March 6th, Mr. James Dunsmure, F.R.C.S. Edin., took his seat as a representative from the Royal College of Surgeons on the Board of Management, in room of the late Sir John Struthers.

The Chair of Physiology in Edinburgh University.

The curators in whom the patronage of the chair of Physiology in Edinburgh University is vested are inviting applications for the chair which has been rendered vacant by the death of Professor Rutherford. Candidates are requested to lodge their applications and eight copies of their testimonials with the clerk to the curators, Mr. R. Herbert Johnston, W.S., 66, Frederick-street, Edinburgh, not later than Saturday, May 20th next. One copy of the application should be signed. The election will be made on a date to be afterwards fixed.

The late Dr. John Stuart Smith.

The death is announced on March 1st at his residence in Edinburgh of Dr. John Stuart Smith, retired Surgeon-Major, Army Medical Department, at the age of 84 years. Dr. Smith was an elder brother of Lord Strathcona and Mount Royal. He retired from active service about 35 years ago. He was educated at Aberdeen University, where he graduated in arts, and in the University of Edinburgh where he obtained his degree in medicine. He then entered the Army Medical Department and served twice in India and in the first Chinese War, being present at the taking of Canton. He served in Ireland during the time of the typhus fever epidemics in 1847 and 1848. He also had principal medical charge in New Zealand during the Maori War.

Church of Scotland Deaconesses' Hospital.

The fourth annual meeting of the contributors and friends of the Church of Scotland Deaconesses' Hospital was held in Edinburgh on March 1st. The report stated that the accommodation consisted of 24 beds in all. The number of patients treated during the year was 333, as against 264 in 1897. The average daily number under treatment was 23. In all 179 operations had been performed by the surgeon-ordinary, the extra physician for diseases of women, and the extra surgeons for diseases of the ear and throat and eye, and no deaths had resulted. The accounts showed a balance in hand of £207 5*s.* 7*d.*

Edinburgh University Honorary Degrees.

At a meeting of the Senatus Academicus on March 4th the Senatus resolved to confer the honorary degree of Doctor of Laws on the Right Hon. Lord Balfour of Burleigh, Secretary for Scotland, Lord Rector of the University of Edinburgh, on March 14th, the occasion of the Lord Rector's address, and at the graduation ceremonial on April 14th on several other eminent persons, among them Mr. William Mitchell Banks, M.D. Edin., F.R.C.S. Eng.

Academic Honours to Medical Men.

Among those who are to receive the honorary degree of LL.D. from the University of Aberdeen are Mr. James Frederick Goodhart, M.D., F.R.C.P. Lond., and Mr. Charles Stewart, M.R.C.S. Eng., F.R.S., Conservator of the Museum of the Royal College of Surgeons of England.

March 8th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Irish Poor-law Medical Service.

A SERIES of rules under the new Local Government Act affecting the Irish dispensary medical service was published in the *Dublin Gazette* of March 3rd. Important innovations are made in the system of granting medical relief tickets and the payment of salaries during incapacity from illness is placed on a satisfactory footing. Only guardians, relieving officers, and wardens appointed by the guardians will be empowered to issue relief tickets and they may not delegate that power to others nor may they sign tickets in blank and leave them to be filled up by others. Provision is made for establishing a reduced scale of medical fees for poor persons unable to pay the usual fees. During the illness of a medical officer the guardians must pay to his substitute such remuneration for his services as the Local Government Board may approve or direct. Continuous sick leave on full salary may be granted to a medical officer for six months, after which he may be allowed salary for a further period of six months at not more than half the ordinary rate.

Health of Belfast.

At the meeting of the city council held on March 1st it was reported that in the past four weeks 229 cases of zymotic disease had been notified, 56 of scarlet fever, 54 of typhoid fever, 41 each of simple continued fever and erysipelas, 25 of diphtheria, six of membranous croup, five of puerperal fever, and one of typhus fever. There were 65 deaths from zymotic disease, 93 from phthisis, and 167 from respiratory diseases. The annual death-rate was 25·1 per 1000. The outbreak of typhoid fever has died out and the disease has again assumed the normal level which seems to be persistent in Belfast. 54 cases have been notified in the month, against 222 in the corresponding month of last year, and the deaths were 10, as compared with 27 last month. Measles, scarlet fever, and influenza are also very prevalent.

"The University Education Question in Ireland."

Professor Whitla, Professor of Materia Medica in Queen's College, Belfast, has published through Messrs. Strain and Sons at the modest price of 6*d.* a very clear little pamphlet with this title. All who want to understand the "ins" and "outs" of a very difficult matter should read what Professor Whitla has to say.

The Ulster Medical Society.

The March meeting of the Ulster Medical Society was held on the 2nd inst. in the anatomical department of Queen's College, Belfast. In the large room of the anatomical school a typical collection of fractures from the medical museum was placed, as well as specimens illustrating surgical pathology and deformities and medical pathology. The most valuable demonstration of the evening was that given by Professor Symington and his assistant, Dr. Johnstone, on "The Topographical Anatomy of the Thoracic and Abdominal Viscera." Two cadavers (male and female) have since November been carefully prepared and hardened in formol and so deftly manipulated that the various organs can one by one be removed and replaced again so that a most extraordinary and vivid idea can be given of the whole body or of any separate region of the chest or abdomen. Finally, Dr. Johnstone read a paper on Two Fœtal Monsters and Professor Symington illustrated by diagrams a Comparison of the Pelvic Viscera and the Pelvic Floor in Two Adult Male Subjects.

Death of Mr. P. J. O'Hara, M.D. R.U.I., Ballymena.

I regret to announce the death of Dr. O'Hara which took place on Feb. 28th at the residence of his father at Ballylesson, Ballymena. Dr. O'Hara, after studying at Queen's College, Cork, and in Dublin, graduated M.D. of the Royal University of Ireland in 1884 and shortly afterwards settled down in his native district, Ballymena, where he gained a large and lucrative practice. He was a skilful physician and a great favourite and his death is much deplored in Ballymena.

The Royal Victoria Hospital, Belfast.

For some time past Mr. Henman (of Birmingham), the architect, and the staff of the Royal Hospital have been holding consultations in reference to the plans of the new Royal Victoria Hospital and, although matters are not finally settled, the principles of its construction are in the main agreed upon. It is to be heated and ventilated on the "plenum" system and the wards are to be one storey in height.

The Water-supply of Cork.

The water-supply of Cork has been seriously impeached, apparently on good grounds, by Mr. H. W. Hunter in a letter to the *Cork Constitution*. That journal in a leading article calls upon the corporation of the city to hold a searching inquiry into the matter.

March 8th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Hospital Abuse in Paris.

AT a meeting of the Syndicates Union recently held Dr. Le Blond proposed the following resolutions to be submitted to the Superior Council of the Assistance Publique:—
1. The hospital shall be open to the poor and needy alone.
2. Hospital treatment for payment shall only be supplied to

domestic servants, workmen, and employés whose wages do not exceed a certain sum to be hereafter determined. 3. No one whose rent exceeds in Paris 1000 francs or who pays rates shall be entitled to benefit by the services of a hospital. Exceptions may be made in the case of those who after a searching inquiry are found to be incapable of paying for a serious operation at the usual fees. 4. In every district shall be nominated one or two charitable persons whose duty it shall be to make inquiry into every case before such case be admitted to the hospital and to whom every patient desirous of entering a hospital must apply. 5. The medical men attached to the charitable organisations of every quarter shall have the right to give out admission tickets to hospitals if in their opinion the patient is really poor and unable to be properly cared for at home. Such an admission ticket shall be followed up by an inquiry into the merits of the case. 6. No sick person shall be admitted at once into a hospital without inquiry except in the case of an emergency.

Prognosis in Erysipelas by Examination of the Blood.

Speaking at the meeting of the Society of Biology held on Feb. 18th M. Chantemesse took occasion to remark that there existed hardly any clinical signs by which could be diagnosed the course of an attack of erysipelas, whether it would resolve or whether, if once resolved, a relapse would follow. Examination of the blood in erysipelas, whether made during an attack or during the period of convalescence, furnished valuable information upon this matter. The curve of the number of leucocytes in a case of erysipelas followed very closely that of the temperature, but this leucocytosis did not show equally throughout the various blood elements. There were polynucleated cells which showed an increase as soon as the malady was established, while at the same time the number of mononucleated cells diminished, such diminution occurring chiefly in the lymphocytes. When recovery took place it was signalised by a fall in the number of polynucleated cells. The eosinophile cells which fell in number during the course of the illness only appeared again when the blood infection was altogether at an end. M. Chantemesse had noticed that sundry suppurative affections which appeared in the course of erysipelas were generally of favourable import, for he had often noticed patients with erysipelas recover who had suffered from this complication. M. Malassez stated that some time ago he had occasion to examine the blood in a number of cases of erysipelas. He had always noticed profuse leucocytosis and the formation of an abscess in such patients produced a veritable shower of white corpuscles. M. Vagnez said that he had often been able to prognose septic affections by finding marked leucocytosis in patients who were under treatment.

The Water-borne Origin of Enteric Fever.

At the meeting of the Society of Biology held on Feb. 28th MM. Ch. Nicolle and G. Spilman communicated a paper upon the Importance of the rôle played by Drinking Water in the Etiology of Enteric Fever. A very considerable number of facts went to support this theory. The observers thought that one very striking example which they were able to bring forward had not yet been made public. The town of Falaise possesses an excellent supply of drinking-water of which a battalion of infantry forming the town garrison partook. Enteric fever is very rare among the men forming this garrison, there having been only four cases in 10 years—namely, two in 1889, one in 1891, and one in 1892. At the close of last year, however, there were many interruptions to the supply of water to the barracks; three times was the supply interrupted between Dec. 8th and 15th and once between Dec. 22nd and 25th. Fatigue parties were sent out to the various hydrants of the town to bring in water. Some of these fatigue parties, however, instead of going to the appointed places for their water—places which had been very carefully chosen—preferred, because it was not so far to go, to get water from two wells, the water of which, manifestly polluted by certain cesspools in the neighbourhood which had not been emptied, had not been used by the civil population for a very long time. As a consequence four cases of enteric fever appeared, the diagnosis being verified by the serum test. The first appeared on Dec. 27th, the second on Dec. 28th, and the two remaining ones on Jan. 3rd. None of the men attacked had been on leave for a long time. Two others were admitted into hospital at the same date with the same symptoms, but the diagnosis was not confirmed when the cases were submitted to the serum test. Working with these facts as a basis Dr. Loustalot, the surgeon-major, examined some samples from the wells in question in the bacteriological laboratory of the Rouen School of Medicine. Here, following the method of Elsner, he had no difficulty in isolating from the water of one well the bacillus typhosus together with another bacillus very similar to the first but differing from it in that it gave no agglutinative reaction with the serum of animals inoculated with an undoubted enteric culture. In the water of the second well only the bacterium coli was found. It was difficult to understand the part played by the bacillus which is so like the real bacillus typhosus. So close is the resemblance that but for the serum test it would certainly have been called a real bacillus typhosus. Possibly there is some relation between this microbe and the two doubtful cases of enteric fever in which the serum test gave a negative result. If it had been wished to experiment upon human beings as to the part played by water in the distribution of typhoid fever one could not have a more striking result from experiment than the condition of matters at Falaise.

March 7th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Cultivation of the Enteric Fever Bacillus.

A NEW method available in the diagnosis of enteric fever has been described by Dr. Piorkowski at a meeting of the Berlin Medical Society. In 1898 he discovered that a marked difference existed between a colony of bacterium coli and one of the enteric fever bacillus, for the former grew in gelatin with a distinct edge whilst the latter showed irregular radiations. From a practical point of view it was, however, a disadvantage that these differences were visible only after 48 hours. Dr. Piorkowski has now succeeded in accelerating this development by using media containing only a very small amount of gelatin. The culture medium used by him is composed as follows: urine two days old which has become alkaline and has a specific gravity of 1020 is mixed with 0·5 per cent. of peptone and 3·3 per cent. of gelatin, boiled in a water-bath, and filtered. After being run into glass tubes it is sterilised for 15 minutes and on the following day again for 10 minutes at a temperature of 100° C. In this culture-medium the bacterium coli appears after 20 hours in round, yellow, fine-grained and sharply-defined colonies, whilst enteric fever bacilli show a peculiar arrangement in the form of tendril-like figures somewhat similar to spirochætæ and quite different from the colonies of bacterium coli. These characteristic signs, however, appear only in the above culture medium; on 10 per cent. normal gelatin no difference between the two species of bacteria was visible. In test tubes containing the above urine-gelatin the colony of bacterium coli appears in a fine grey-white line and grows largely on the surface of the gelatin; enteric fever bacilli only grow within the gelatin and not on the surface. The same differences appeared whether specimens were taken from water artificially infected with bacilli or from the fæces of patients. In one case the characteristic symptoms described by Dr. Piorkowski were present, whilst Widal's reaction was not obtained.

A Congress on Tuberculosis.

A congress to discuss measures against tuberculosis will be held at Berlin from May 24th to 27th under the patronage of the German Empress and under the honorary presidency of Prince Hohenlohe, the Imperial Chancellor. The subjects of discussion will be: (1) Spread of the Disease, to be introduced by Dr. Köhler, Director of the Imperial Health Office, and Dr. Krieger, chief of the Medical Department of Alsace-Lorraine; (2) Etiology, by Professor Koch and Professor Fränkel; (3) Prophylaxis, by Professor Gerhardt and Dr. Schjerning, of the Medical Department of the War Office; (4) Treatment, by Professor Ziemssen of Munich and Professor von Schrötter of Vienna; and (5) Sanatoria, by Dr. Dettweiler of Falkenstein and Dr. Gaebel, director of the Imperial Insurance Office. The Governments of the States of the German Empire, the municipal authorities of the greater towns of Germany, the medical corporations, the employers' associations, the medical faculties of the German universities, and other bodies have been invited to send representatives to the congress. The Presidents of the congress are the Duke of Ratibor and Professor von Leyden. The committee consists

of a great many distinguished medical men and philanthropists, among whom may be mentioned Professor Koch and Professor Gerhardt of Berlin, Professor Ziemssen of Munich, Professor Flügge of Breslau, Professor Liebermeister of Tübingen, and others.

A Female Doctor of Philosophy of Berlin University.

An event for ever memorable in the history of Berlin University happened on Feb. 18th, when for the first time academical honours were conferred upon a lady, Fräulein Neumann, who was created Doctor of Philosophy. During the last few years the Government and the University authorities have shown themselves not unwilling to admit females to academical studies, but a good many difficulties due to the regulations at that time existing had to be overcome before the new "doctor" could attain the object of her ambition. The graduation ceremonial drew an enormous audience, so that the *aula magna* of the University was overcrowded long before the commencement of the proceedings. It was obviously not by interest in the "dissertation" that so many people were attracted, and the majority of the audience were hardly likely to understand much about the "disputation" in matters of philosophy, physics, and mathematics. Most of those present were evidently moved by mere curiosity to see a lady taking the principal part in the quaint usages of a university graduation and were not a little astonished to hear her disputing without any embarrassment against her "opponents," of whom two were men and one was a lady doctor of a Swiss university. After the "disputation" was finished the dean, Professor Schwarz, addressed the meeting, pointing out the exceptional interest of this occasion on which academical honours were for the first time in the history of the University granted to a candidate of the female sex. He congratulated the University authorities on their attitude towards the question of female education and the candidate on her perseverance. After this speech he proceeded to confer the degree in the customary manner and the new "doctor" was received by the audience with loud applause. A further proof of the change which is coming over public opinion with reference to the higher education of women is furnished by the intention of the Government to admit women to the examinations for medical qualifications. Some periodicals have reported that this question will be decided in connexion with the forthcoming alterations in the State examinations in medicine, notwithstanding the opposition of leading medical men. An evidence of unfriendliness to medical women was recently given by the committee of the Berlin Medical Society. A medical woman in Berlin, qualified in Switzerland, made an application to be received as a member but was refused by the committee presided over by Professor Virchow because the regulations of the society were considered to preclude the admission of female members. Two members of the society then moved that the regulations should be altered, but the committee refused to support the motion and when it was again brought before the committee it was once more rejected, so that according to the rules of the society the question must now be postponed for a year.

March 6th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

The Health of Leo XIII.

"VENI, vidi, vici," Professor Mazzoni is entitled to say considering the promptitude with which his august patient has responded to his surgical intervention. The incidents preceding and attending this the sharpest curve yet described by the comparatively even tenour of the Pontiff's health are soon told. For two years past he has suffered with progressive frequency from intestinal catarrh of a mild description, from occasional winter "raffreddori" (colds), and now and again from vertigo; but it was only quite lately that his body physician, Dr. Lapponi, had to accentuate his precautions and impose a peremptory restriction on the number and duration of his receptions. Among other ceremonies of this kind the audience fixed for the Princess of Sweden had to be postponed, but the rest and relaxation from official strain soon told, and for about a fortnight thereafter the Pope was as accessible as ever, while the magnificent weather at the close of February tempted him out into the Vatican Gardens. On Sunday, Feb. 26th, however, after celebrating mass in his private chapel, he complained of slight malaise and loss of appetite, whereupon Dr. Lapponi concluding that it was one of the usual "raffreddori" caught during the garden exercise, prescribed repose. In the evening the pulse was regular, but the skin was dry. On the next day it was deemed advisable to keep the patient in bed till on Tuesday morning, the febricula returned contemporaneously with pain in the axilla. A minute general examination thereafter disclosed some inflammation of an old cyst in the left lumbar region—a cyst of the size of a turkey's egg, hæmatic in nature and hitherto so quiescent as hardly to give notice of its presence. Immediately Professor Mazzoni was called in with the Pope's sanction (quite necessary to obtain under existing relations between the Vatican and non-clerical Rome) and removal of the cyst was proposed and agreed to. The Pope, with a deprecatory smile, asked: "E dunque necessario tagliare questa amica cisti che ho con me da tanti anni?" (Is it necessary to apply the knife to this friendly cyst which I have had about me for so many years?) and the pleasantry with the pluck which it implied helped to reassure the operator in dealing with a nonagenarian. Enucleation was performed without chloroform but with such local anæsthesia as was possible and during the operation the Pontiff gave only three half audible groans, ending in "basta, basta," (enough, enough) when the encapsuled tumour was finally removed. The after-treatment was equally successful and the last bulletin announced full convalescence, all the symptoms being satisfactory. What rendered surgical intervention necessary, and that immediately, was the incipient inflammation manifest in the cyst and the danger of its contents, so modified, finding their way into the circulation with peradventure toxic results. Another consideration counselling prompt interference was the patient's 89 winters; there was not an hour to lose. His energetic will was in his favour and this—not the blunted sensibility of old age—explains the absence, nearly perfect, of all expression of pain in a very partially anæsthetised patient. But that energy was more mental than physical and there is no saying how soon it also may have collapsed, had the inflammatory condition of the cyst been allowed to extend. It may interest your readers to know that Professor Gaetano Mazzoni is a *privat-docent* in special pathology in the University of Rome and "chirurgo primario" in the San Giovanni Hospital. He is a nephew of the great Roman surgeon Costanzo Mazzoni—a teacher and operator of European fame—of whom THE LANCET gave an extended obituary notice in 1885.[1]

Undergraduate Mutiny in the University of Turin.

The riots at Palermo and Naples to which I referred on Jan. 28th have had their counterpart in Turin, where the military arm has had to be invoked and many students have been arrested. The cause of this most unseemly outbreak resolves itself into the dissatisfaction of the medical undergraduates, mostly those of the second, third, and even fourth years, at the appointment of Professor Fusari to the chair of Anatomy. This gentleman, with every scientific qualification for the post including an admirable record as a teacher, was, it seems, the reverse of a *persona grata* to the students whose preferences were all for another; but the authorities kept true to their original choice which His Excellency Dr. Baccelli, Minister of Public Instruction, confirmed. Ever since the University has been in a ferment. Professor Fusari has been boycotted; he has also been violently interrupted in his prelections and no insult or contumacious demonstration on the part of his young adversaries has been spared him. Matters came to a head on Saturday, Feb. 25th, when Professor Fusari was engaged with a class of first-year's students who had the courage to attend. The rebellious majority, many of them at a stage of their curriculum when a steadier, more dignified demeanour might have been expected, proceeded to interrupt the lecture. Foiled in their attempt to get into the room they tried to rescue their ringleader and laid violent hands on the vice-inspector of the public force. The captain of carabineers then fired a revolver in the air which brought up reinforcements, whereupon the rioters fled, leaving three of their number prisoners. Later in the afternoon an attempt to rescue these resulted in more arrests. By this time the Bersaglieri (a crack infantry regiment) came up, followed by another flight of the rioters and still further arrests—those arrested, like their predecessors, being accommodated with "strong lodgings" in the

[1] THE LANCET, Feb. 14th, 1885, p. 319.

judiciary prisons. Those students who are still at large were, when last heard of, patrolling the streets in a heavy snowstorm, invading the newspaper offices, and generally making themselves and their "grievances" known. Dr. Baccelli is at the moment engaged in examining the circumstances of the riots with a view to inflicting disciplinary penalties on their authors. He will have the sympathy of all loving Italian learning and professional decorum if his action is "short, sharp, and decisive."

March 7th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Treatment of Typhoid Fever.

AT a recent meeting of the Wiener Medicinisches Doctorencollegium Dr. V. Jez described the mode of preparation and the action of the "antityphoid extract" prepared by himself. Rabbits after being made highly immune by intra-peritoneal injections of bouillon-cultures of the typhoid bacillus are killed, and the thymus gland, spleen, bone-marrow, brain, and spinal cord are rubbed up together with a solution of common salt, alcohol, and glycerine, a small quantity of carbolic acid and of pepsine being added. The liquid thus obtained is put on ice for 24 hours and after filtration yields a reddish liquid which is by Dr. Jez called "antityphoid extract." It is administered internally in doses of from 20 to 30 grammes (from three-quarters of an ounce to one ounce) every two hours in cases of typhoid fever. Dr. Jez has treated 18 cases of typhoid fever with this remedy and he states that he obtained very favourable results from its use. The temperature curves lose their typical character and the fever shows remissions under the use of the extract; at the same time the pulse becomes better and apyrexia sets in very soon. Dr. Jez states that the use of this remedy is not attended with any inconvenience. If further trials of this extract should confirm these results it would be very interesting from a theoretical point of view because this extract would be the first antitoxic remedy which would act from the intestinal tract and would show in this respect a similarity with the organic extracts prepared from the thyroid or from the suprarenal glands.

Infection and Blood-pressure.

In a preliminary communication recently made to the Gesellschaft der Aerzte of Vienna Dr. Federn drew attention to the influence of the infective process on the blood-pressure, an influence which is very marked in malaria and in scarlet fever. According to his researches rise of temperature has no influence on the blood-pressure unless it is associated with the diseases mentioned. He believes that a high blood-pressure may be regarded as a diagnostic means corroborative of scarlet fever in doubtful cases, as this symptom is absent in other febrile diseases and that it has some connexion with the infection itself.

The Sale of Organo-therapeutic Remedies.

The Government has recently issued an order prohibiting the sale of organo-therapeutic preparations by druggists unless they are prescribed by a medical practitioner. At the same time the druggists have been advised to buy such preparations only from reliable manufacturers. I am informed that this measure was due to the increasing tendency of the public to make use of thyroid extracts and similar remedies without medical advice, a practice which has led to some serious accidents on account of too large doses having been taken. A second motive for this order which will meet with the approval of the medical profession lies in the fact that it is very difficult to ascertain whether an organo-therapeutic preparation really contains the active principles which it should contain, as there are no simple chemical tests to prove or disprove the statements made by manufacturers regarding the composition and the value of their products.

March 6th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Forcible Introduction of Sanitary Reforms into Cuba.

THE Special United States Commissioner who has been almost continuously in Cuba in an official capacity since hostilities were suspended, says that in Santiago may be seen in full operation the work which the Government of the United States has been impelled to undertake. Here may be studied the character of the forces upon which the people of the United States must rely in the work of reconstruction now in progress. The machinery of government is running with a fair degree of smoothness, and the men responsible for it, from the humblest official to the commander of the province, understand their business and are masters of the situation. The disagreeable smells of the typical Cuban city are less pronounced in Santiago, while whitewash, limewash, fresh paint, and all sorts of disinfectants have deodorised the surrounding atmosphere and made the old town habitable. The streets are no longer used as sewers, and the unhappy individual who violates the law and escapes the lash of the sanitarian's whip is compelled to work on the streets for 30 days. This official and his 106 men dressed in spotless white and 32 good United States mule teams and carts have dug out from the streets of Santiago the filth of ages and are now able to keep them clean. Every day, by the aid of that great disinfectant petroleum, the garbage of the city is burned. The work of sanitation is not confined to the streets, but it extends to the dwelling-houses, the shops, and buildings of all kinds. Indeed, the campaign against dirt and disease has been as sharp and hot as the charge on San Juan Hill, and it has been equally productive of results. The resistance on the part of the inhabitants is quite as stubborn, perhaps more so, than that of the Spanish soldiers to the American forces around Santiago. The doors of houses had to be smashed in; people making sewers of the public thoroughfares were publicly horsewhipped in the streets of Santiago; and eminently respectable citizens were forcibly brought before the commanding general and sentenced to aid in cleaning the streets which they were in the habit of defiling. The campaign ended in complete surrender to the authorities, and the inhabitants of Santiago, regardless of class, have had their first object-lesson in the new order of things introduced by the war. On looking backward five months, picturing Santiago in July and comparing it with the more hopeful condition existing on all sides at the present moment, it is easy to see the omens which point to the coming prosperity of the whole island under intelligent and honest government.

The New York State Board of Medical Examiners.

The report of a committee states that of the 809 applicants before the Board, representing the State society, 29·9 per cent. were refused. The rejections by topics were: anatomy, 55; physiology and hygiene, 41; chemistry, 67; surgery, 54; obstetrics, 62; pathology and diagnosis, 68; therapeutics, practice, and materia medica, 78. Among the New York graduates there was one for every three students. It was evident that these schools graduated better qualified men than other similar institutions in the United States. It had been decided to hold hereafter only four examinations instead of five each year. The faculties of the various medical schools had been asked to furnish 30 questions on every branch taught in these schools for the use of the question committee. It had been proposed to alter somewhat the plan of examinations—viz., separating pathology and diagnosis, divorcing medical practice from materia medica and therapeutics, and grouping on one sheet questions on chemistry and hygiene.

The Report of the Commission on the Conduct of the War.

The following is a summary of the finding of the Commission as to the Army Medical Department: At the outbreak of the war the medical department was, as to men and materials, altogether unprepared to meet the necessities of the army called out. As the result of a generation of contracted and contracting methods of administration it was impossible for the department to operate largely, freely, and without due regard to cost. In the absence of a special corps of inspectors and the apparent infrequency of inspections by chief surgeons and of official reports of the state of things in camps and hospitals there was not such investigation of the sanitary conditions of the army as is the first duty imposed upon the department by the regulations. The nursing force during the months of May, June, and July was neither ample nor efficient—reasons for which may be found in the lack of a proper volunteer hospital corps, due to the failure of Congress to authorise its establishment and to the non-recognition in the beginning of the value of women nurses and of the extent to which their services could be secured. The demand made upon the resources of the department in the care of the sick and wounded was very much greater than had been

expected and consequently in like proportion these demands were imperfectly met. The department being powerless to transfer supplies from point to point except through the Quartermaster's Department, it was seriously crippled in its efforts to fulfil the regulation duty of "furnishing all medical hospital supplies." Shortcomings in administration and operation may justly be attributed in large measure to the hurry and confusion incident to the assembling of an army of untrained officers and men, 10 times larger than before, for which no preparation in advance had been or could be made because of existing rules and regulations. Notwithstanding all the errors of omission rather than commission which were manifest, a vast amount of good work was done by medical officers, high and low, regular and volunteer, and there were usually few deaths among the sick and wounded.

Reserve Corps of Nurses Needed.

The Army Investigating Committee recommend the following improvements in the medical service: A larger force of commissioned medical officers; authority to establish in time of war a proper volunteer hospital corps and a reserve corps of selected trained women nurses, ready to serve when necessity shall arise but under ordinary circumstances owing no duty to the War Department except to report their residence at determined intervals; a year's supply for an army of at least four times its actual strength of all such medicines, hospital furniture, and stores as are not materially damaged by keeping, to be held constantly on hand in the medical supply depôts; the charge of transportation to such extent as will secure prompt shipment and ready delivery of all medical supplies; the simplification of administrative "paper work" so that medical officers may be able to discharge their sanitary and strictly medical duties; and the securing of such legislation as will authorise all surgeons in medical charge of troops, hospitals, transports, trains, and independent commands to draw from the Subsistence Department funds for the purchase of such articles as may be necessary to the proper treatment of soldiers too sick to use the regular army rations—this to take the place of all commutation of rations of the sick now authorised. Convalescent soldiers travelling on furlough should be furnished with transportation, sleeping-berths, or state-rooms, and $1.50 per diem for subsistence in lieu of rations, the soldier not to be held accountable for this amount.

State Care of Consumptives.

At the recent meeting of the New York State Medical Society a resolution was passed urging the present legislature to adopt a measure for the establishment of a State hospital for consumptives. It appears that 13,000 lives are lost annually in the State of New York from pulmonary tuberculosis. Only one State in the Union—namely, Massachusetts—has a State hospital for consumptives. It was urged that ideal isolation can only be secured by State care, and that segregation should be employed among the poor by establishing special hospitals near the large centres of population. Thus far the cottage plan of treatment in the Adirondack Mountains in the northern part of the State has proved most successful and it is in this region that it is proposed to establish the State hospital for this class.

Feb. 19th.

NEW ZEALAND.

(FROM OUR OWN CORRESPONDENT.)

The Annual Meeting of the New Zealand Branch of the British Medical Association.

THE annual meeting of the above association commenced its sittings in Auckland on Jan. 3rd and terminated on Jan. 10th. The members met in the large room connected with the University College buildings which had been kindly placed at the disposal of the Auckland section. The gathering was under the presidency of Dr. Scott, while Mr. Hope Lewis acted as president of the local branch and Dr. Pabst as secretary for the annual meeting.

The city was besieged with visitors from all parts of New Zealand. Accommodation was consequently extremely difficult to obtain and prices as a result ranged high. Other attractions were the Auckland Exhibition, which had been opened but a short time previously by his Excellency, Lord Ranfurly, and the fact that the Auckland Racing Club held its annual meeting during the conference week. Notwithstanding these additional allurements, the attendance of members at the medical conclave was not as numerous as had been anticipated, but it nevertheless brought together a fair sprinkling of medical men from the North Island. The members of the Auckland section made the visitors' stay in their city most enjoyable. Aided by perfect weather the latter were enabled to thoroughly appreciate all the outdoor relaxations which were available, and they were not a few.

Auckland is certainly from a picturesque point of view the most beautiful city in this colony. The glorious Hauraki Gulf studded with its fantastically shaped islands, the beautiful blue water, the magnificent foliage of native trees everywhere to be seen all tend to impress one most favourably. From the summit of Mount Eden (an extinct volcano) a view is obtained which stretches from the east to the west coast of the North Island and in my opinion is not to be surpassed for loveliness in the southern hemisphere, with perhaps the exception of the harbour of Vavau. Auckland was decked in its gayest apparel on the opening day of the medical meeting. The harbour was brilliant with bunting. A boat race took place in the afternoon between the Maories and the man-of-war's-men from H.M.S. *Tauranga* and *Royal Sovereign*. The Maories won easily and a war dance in honour of their victory concluded the day's sport.

The agenda paper, owing to unforeseen circumstances, had to be altered and accordingly Mr. Hope Lewis opened the meeting with an excellent paper on Cases of Abdominal Section—a paper characterised by methodical arrangement of the various types of cases and a carefully prepared description of the minor details associated with each case. These details of operative work were much appreciated and an interesting discussion ensued in which Dr. Graham Campbell, Dr. Cleghorn, and Dr. Saunders took part. A hearty vote of thanks was accorded by the members present for the paper read.

On Wednesday evening the installation of the President for the ensuing year took place followed by the Presidential Address—a *précis* of which I append. The retiring President, Dr. Fell (Wellington) in vacating the chair thanked the members for their kindness during his term of office and at the same time paid a high tribute to the manner in which Dr. Graham Campbell (Christchurch) had carried out the duties of general secretary. There is no doubt that the medical profession of this colony is very much indebted to Dr. Campbell for the untiring industry which he has displayed since his election to this post. He certainly possesses all those qualities which tend to make an excellent secretary and he assuredly exercises those qualities in a most satisfactory manner.

Dr. Scott, the president for the coming term, then took the chair and delivered his inaugural address, his subject being Sanitation and the Public Health. At considerable length he enumerated and criticised the laws of Great Britain and the colony concerning public health and complained of the lack in New Zealand of administration and the want of a controlling and advising body, such as the central board was in Great Britain and should be in New Zealand. The President contended that the mode of appointment of health officers and inspectors of nuisances was in a very unsatisfactory state in the colony, because these appointments were not compulsory, were not subject to the approval of the Central Board of Health, and were not made under any regulation issued by that body, and the tenure of office was insecure. In concluding his address Dr. Scott said: "There is everywhere a lack of order and method and a want of unity in the management of sanitary affairs which have brought about the culpable laxity in administration. The remedies for such a state of affairs must necessarily be directed to the correction of the shortcomings of the laws and of their methods of administration. It is a recognised fact that no law can be efficiently carried into effect unless its value and importance are understood and appreciated; therefore, my first recommendation would be—educate the public by means of: 1. The instruction of the children in the State schools. This is being done to a slight extent in the primary schools, but it is remarkable that no such instruction is given in the secondary schools. 2. Through the formation of societies somewhat after the pattern of ambulance societies which would arrange for periodical lectures and demonstrations in sanitary matters. 3. Through the press, which would then in its reports of the foregoing even more freely than heretofore give its valuable

aid in creating an interest in the subject. 4. Through the New Zealand University, by inducing it to follow the example of Cambridge in 1875 and copied by, I believe, all the medical corporations in Great Britain since that time, and to grant, as they do, diplomas and degrees after a full course of instruction and examination in sanitary science. We should then have an educational force acting vigorously among us and without a break from the lowest to the highest grades, which would eventually compel the authorities to value each human being at some 38 times the value of swine. The work of educating the masses requires much time and as immediate reform is urgent it is absolutely necessary to call upon the authorities to at once enforce the present Health Acts; then, without any amendment of the laws, the Central Board could have at its disposal an efficient staff of medical and other officers to carry out their requirements which was the function for which it was established. The board, on receipt of the annual reports of the local authorities (if it carried out the trusts committed to it), would through its officers, investigate the causes of exceptional sickness within the district of any local board and would thereupon issue such orders or instructions as might be necessary for the protection of the health of the community. The members of the Central Board, using the powers which they already possess, would soon find out where the present machinery is faulty and could ask for such amendments in the law as might be necessary for the better protection of the public with an absolute certainty that their reasonable demands would be complied with. There are, however, some amendments clearly required without further delay, such as: (*a*) the compulsory amalgamation of small road boards so as to form boards of health whose administration would at the same time be both economical and efficient; (*b*) provision that a competent staff of officers shall be appointed by all local boards subject to the approval of the Central Board—these officers to be strictly independent of the local board and to be responsible solely to the Central Board who should authorise the payment of part or all of the salaries of these officers on being satisfied of the efficient performance of their duties and on these terms alone; and (*c*) in each of the four centres of population there ought to be appointed a medical officer of health whose services should be entirely at the disposal of the sanitary authorities but who might have other suitable duties assigned to him and be by virtue of his office an official investigator in all cases of inquest, a public bacteriologist, pathologist, and analyst, and possibly also one of the certifying practitioners under the Lunacy Acts. This officer might also advise rural medical officers and supervise their work. It might be well to consider in connexion with such a scheme whether the districts of the present hospital and charitable aid boards would be advantageous for the local administration of public health affairs and whether these boards, with or without some slight amendments of their constitution, would be suitable as either intermediate or local boards of health. The present local boards, under such circumstances, could still exercise minor jurisdiction in sanitation within their parochial districts. The Central Board should be so constituted that it would be actually the supreme authority in all matters relating to public health. This board should be required to exercise full and direct control over all local boards and should be granted power to compel such boards to carry out all works necessary for the preservation of health, inclusive of those of such magnitude as sewerage and water-supply. The local boards, enlarged in area and powers, should be able on their part to direct and control the parochial boards subject to appeal to the Central Board. Our Government, as I am fully persuaded, is earnestly desirous of furthering the welfare of the community in every particular. It cannot carry out this object of its existence in any better manner than by completing the organisation I have faintly sketched out by forming a Ministerial department of public health. We have departments of justice, defence, and education, all doing important and valuable work, but none is of such vital importance to the welfare of the community as would be a department of public health. This proposition is so evident as to require no argument in its favour, as all appreciate the commercial and physical advantages of security of health. In 1869 a Royal Commission was appointed in England which reported in 1871 that 'the administration of sanitary laws should be made uniform, universal, and imperative throughout the kingdom; that all powers requisite for the health of towns and country should in every place be possessed by one responsible local authority kept in action and assisted by a superior authority.' All sanitary legislation in Great Britain since that time has been initiated in furtherance of the propositions there set forth. The recent British Local Government Acts are calculated to carry out this principle to a greater extent than any preceding enactment We in this colony cannot go far wrong if we implicitly follow this same policy and even carry it further than Great Britain by the establishment, as I have already proposed, of a department of sanitation. Notwithstanding the 70 Acts and amendments passed relating to sanitation there has been no practical advance made in our sanitary legislation since 1876. The Municipal Corporations and Local Authorities Bills now under the consideration of the Ministry do, however, indicate an attempt at progress as they provide for—(1) county councils acting as rural boards of health in lieu of road boards; (2) simplification and amplification in the process of making by-laws; (3) the authority for the Governor to frame and gazette model by-laws; (4) the better attention to the prevention of overcrowding and over-building; (5) and, finally, a more readily available means of compelling the carrying out of sanitary measures notwithstanding the neglect of a local board. This provision is taken from the Local Government Act, 1890, Victoria, and reads: '1. If any council constituted under this Act in the opinion of the Governor wilfully refuse to act in conformance or exercise of the duties or powers respectively reposed and vested in it by this Act, or in the like opinion substantially so refuse to act, the Governor may make such provision as he thinks fit for the due performance of such duties and powers either by himself or any other person. 2. In particular the Governor shall have and may exercise all the powers of such council to make, levy, and recover rates and to expend the same.' These are valuable amendments. Nevertheless, the provisions of these Bills would not affect materially the unsatisfactory position of sanitary administration as there is no provision for compelling the Central Board to do its duty. All the duties and obligations of the local boards which are optional in our present Acts remain so in these Bills and therefore would not come within the penal provisions. I think our branch would be doing an admirable work were it to devote time during the present year to revising the sanitary sections of the Municipal Corporations and Local Authorities Bills. In the main we must admit that the responsibility for the present unsatisfactory state of the administration of sanitation in this colony must rest with the members of our profession who having the requisite knowledge and the special opportunities for observation and comparison have failed to direct attention to reforms with that force which is so necessary to move public opinion. It might well have been objected to any proposal for reform that if we were satisfied the public might rest content. We have not done our duty in the past, but in the face of the examples set us by other communities we should delay no longer or speak with uncertain sound, but insist that in the interests of the community reform must come and come speedily. We must rise to our responsibilities and no longer be content with spasmodic and individual action, but set ourselves unitedly and strenuously to bring about such changes as our experience has clearly shown to be necessary, and in so doing we shall be carrying out one of the primary objects of our association."

Jan. 16th.

Obituary.

FREDERICK ASHTON HEATH, M.R.C.S. ENG., L.S.A.

MR. F. A. HEATH, one of the consulting surgeons of the Manchester Royal Infirmary, died on March 2nd, after a long and painful illness, at the age of 69 years. He was born in Manchester, where his father was a well-known practitioner, and he lived and died in the city of his birth. He received his medical education at the Manchester Royal School of Medicine, now an important department of Owens College, and this course was supplemented by study at Guy's Hospital and in Paris. Mr. Heath was for many years one of the surgeons of the infirmary and at the "fixed period" of 60 years became one of the consulting staff. He was a careful and judicious surgeon and a

successful operator. His kindness of heart endeared him to his patients, whether in the infirmary wards or in their own homes, and though his retiring disposition and great modesty prevented him from taking so prominent and public a position as he might have done, these qualities, together with his cheery and kindly manner, gained him many friends, by whom his death will be greatly regretted. He was buried at Prestwich Church prior to which a service was held at the Manchester Cathedral, where he had been an attendant from boyhood. In addition to the members of his family there were present representatives of the Infirmary Board, with many of his old colleagues on the infirmary staff and a large number of medical and lay friends.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen having passed the necessary examinations and conformed to the by-laws and regulations have been admitted Members of the College and have received their Diplomas:—

Donald Ackland, Charing-cross Hospital; Harold Cotterell Adams, Middlesex Hospital; Colville Smith Agnew, Charing-cross and St. Mary's Hospitals; James Ainscow and Henry George Sidley Anderson, Owens College and Royal Infirmary, Manchester; Roland Harrison Allport, St. Thomas's Hospital; Maurice Clare Bielefeld Anderson, St. Mary's Hospital; Llewelyn Arnold Baiss, St. Bartholomew's Hospital; Noel Dean Bardswell, King's College and Edinburgh University; Clifford Henry Barnes, Cambridge University and St. Bartholomew's Hospital; John Arthur Percival Barnes, St. Bartholomew's Hospital; Harold Shuttleworth Barwell, St. George's Hospital; Henry Albert Beatty, University of Toronto and London Hospital; John Henry Bellamy, Firth College and General Infirmary, Sheffield; Herbert Melbourne Bernesatle, Guy's Hospital; Andrew Bevan, University College and St. Thomas's Hospital; Morgan Dix Blake, Owens College, Manchester, and St. George's Hospital; Frank Fouracre Bond, Westminster Hospital; Ernest Clarkson Bourdas, St. Thomas's Hospital; Alfred Bowles, University College and St. Mary's Hospital; John Bradley, Mason College, Queen's and General Hospitals, Birmingham; Francis William Brook, Guy's Hospital; Herbert James Bryan, London Hospital; Frederick T. Butler, Owens College and Royal Infirmary, Manchester; Edward John Budd-Budd, and Charles Stanley Cato, Westminster Hospital; Arthur Hunton Carter, Arthur Ernest Clarke, Vincent James Crawford, and Percy James Curtis, Guy's Hospital; Frederick Arthur Coates, University College and Royal Infirmary, Bristol; John Scott Challice, London and St. Mary's Hospitals and Royal Infirmary, Edinburgh; James Alfred Patrick Cullen, London Hospital; William Herbert Davis, Edmund Clapperton Dean, and Montague Dixon, University College Hospital; Frank Sherwill Dawe, St. Mary's Hospital; Thomas Denman Dawson, St. Bartholomew's Hospital; Quirino Bonifacio De Freitas, King's College Hospital; John Thomas Dunston and Evan Evans, Guy's Hospital; Edgar Steele Edwards, University College and Royal Infirmary, Bristol; Alexander Evans, Royal Infirmary and Mungo's College, Glasgow, and Guy's Hospital; Frederick Cecil Forster, St. Mary's Hospital; Joseph Reginald Frost, University College and Royal Infirmary, Bristol; James Gaff and Cecil Maurice Goodbody, St. Thomas's Hospital; Frederick Augustus Hadley, King's College Hospital; Richard Stirke Flemying Hearn and Harold John Hutchens, St. Bartholomew's Hospital; William Savile Henderson, University College, Royal Infirmary, Liverpool, and London Hospital; Arthur Edwin Horn and George Arnold Hutchinson, St. Mary's Hospital; Bernard Featherstone Howlett, St. Thomas's Hospital; George Osborne Hughes, University of Virginia and University College Hospital; Samuel James, Royal College of Surgeons, Edinburgh, and University College Hospital; Arthur Webb Jones, University College and St. Thomas's Hospital; John Henry Jones, Guy's Hospital; Lewis Jones and Alfred Reginald Kay, St. Bartholomew's Hospital; John Harold Kemp, Cambridge University and St. Bartholomew's Hospital; Alexander John Knowlton, Middlesex Hospital; Albert Henry Beaumont Kirkman, Thomas Hamlyn Whittington Langdon, John Matthews, and William Tayler Milton, Guy's Hospital; James Adrian McComb, London Hospital; William John McCoy, University of Madras and St. Bartholomew's Hospital; James Ernest Manlove, St. Bartholomew's Hospital; Robert Collins Martin, St. George's Hospital; Joseph Arthur Mawson, Yorkshire College and General Infirmary, Leeds, and University College Hospital; William Byron Millbanke, University of Durham; George Valentine Miller and Samuel Lee Craigie Mondy, University College Hospital; Charles Martin Mitchell, University College and Royal Infirmary, Bristol; Cuthbert Blundell Moss-Blundell, St. Thomas's Hospital; Francis John Nicholls, Cambridge University and Guy's Hospital; Herbert Francis Parker, Cambridge University and St. Bartholomew's Hospital; Edward James Parry, St. George's Hospital; Thomas Perrin, St. Thomas's Hospital; Cecil Westland Pilcher, Oxford University and St. Thomas's Hospital; William George Porter, Charing-cross Hospital; Robert John Pritchard, Guy's Hospital; Harold Vaughan Pryce, Cambridge University and St. Bartholomew's Hospital; Francis Lionel Rae, Cambridge University and Guy's Hospital; James Herbert Rhodes and Francis Graham Richards, St. Bartholomew's Hospital; Hubert Richard Rice, Mason College, Queen's and General Hospitals, Birmingham, and London Hospital; George Maurice Oswald Richards and Henry Harold Robinson, Owens College and Royal Infirmary, Manchester; Arthur Ricketts, University College Hospital; James Herbert Robinson and Nelson Joseph Roche, Charing-cross Hospital; Edward Walton Spenser Rowland, Cambridge University and Guy's Hospital; Frank Atcherley Rose and Evelyn Pierce Sewell, Cambridge University and St. Bartholomew's Hospital; Cusack Roney Schofield, Owens College and Royal Infirmary, Manchester, and St. Mary's Hospital; Walter Joseph Schuller, London Hospital; Charles Walter Scott, Edinburgh University and St. Bartholomew's Hospital; Hugh William Silver, Charing-cross and University College Hospitals; Savignac Bell Stedman, St. Thomas's Hospital; George Arthur Spear, St. Bartholomew's Hospital; Reginald John Stilwell, Owens College and Royal Infirmary, Manchester, and Westminster Hospital; John Henry Tallent and William Eldon Tucker, Cambridge University and St. George's Hospital; David Jones Thomas, London Hospital; Francis Barrallier Thompson, St. George's Hospital; Frank Douglas Turner and Harry Stanley Turner, Guy's Hospital; Arthur Llewellyn Vaughan, St. Bartholomew's Hospital; Edmond Urquhart, Melchior Von Eberts, and Frederick Richard Wainwright, McGill University and General Hospital, Montreal; Frederick Edward Walker, Guy's Hospital; John Frederick Walker and Cornelius Adrian Wessels, London Hospital; Arthur Maitland Ware, Cambridge University and St. Bartholomew's Hospital; Penry Garnons Williams, St. Thomas's Hospital; Alexander Garrick Wilson, Cambridge University and St. Mary's Hospital; Edward Scott Worthington, Trinity University, Toronto, and London Hospital; Basil Fenton Wingate, St. Mary's Hospital; Edward Young, London Hospital; and John Charles Young, Mason College, Queen's and General Hospitals, Birmingham.

ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—The following gentlemen having passed the necessary examinations have been admitted Diplomates in Public Health:—

Samuel Davey, L.R.C.P. Lond., M.R.C.S. Eng., London Hospital an King's College, London; John Rhodes Dickson, M.B., C.M. Edin., Edinburgh University and University College, London; John Richard Dodd, M.B. Durh., F.R.C.S. Eng., Durham University and St. Bartholomew's Hospital; George Fowler, L.R.C.P. & S. Edin., L.F.P.S. Glasg., Madras, Edinburgh, and Charing-cross Hospital; William Francis Grant, M.D., C.M. Edin., Edinburgh University and University College, London; Edmund William Herrington, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A. Lond., St. Mary's Hospital; William Lanadale, M.D. Durh., L.R.C.P. Lond., M.R.C.S. Eng., L.S.A. Lond., Durham University and Guy's Hospital; Robert George McGowan, M.B., M.S. Aberd., Aberdeen University and University College, London; Walter Augustus Powell, L.R.C.P. Lond., M.R.C.S. Eng., Charing-cross Hospital; James Tracy Simpson, L.R.C P. & S. Edin., L.F.P.S. Glasg., Yorkshire College and General Infirmary, Leeds, and University College, London; George Charles Walker, M.B., Ch.B. Viet., L.R.C.P. Lond., M.R.C.S. Eng., L.S.A. Lond., University College and Royal Infirmary, Liverpool; Ernest Graham Hamilton Williams, L.R.C.P. Lond., M.R.C.S. Eng., Charing-cross Hospital and University College, London; and Ernest Morton Wyche, L.R.C.P. Lond., M.R.C.S. Eng., London Hospital.

FOREIGN UNIVERSITY INTELLIGENCE. — *Basle:* Dr. Garré of Rostock has declined the invitation to the chair of Surgery in succession to the late Dr. Socin.—*Berlin:* Dr. Paul Jacob, assistant in the First Medical Clinic, under Professor von Leyden, and Dr. Max Rothmann have been recognised as *privat-docenten* of Medicine; Dr. Finkelstein of the Charité as *privat-docent* of Children's Diseases; and Dr. Grabower as *privat-docent* of Laryngology.—*Bologna:* Dr. Orazio Modica has been recognised as *privat-docent* of Forensic Medicine.—*Catania:* Dr. Annibale Costa has been recognised as *privat-docent* of Surgical Pathology.—*Florence:* Dr. C. Baduel has been recognised as *privat-docent* of Medical Pathology.—*Freiburg:* Dr. Hugo Selheim has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Iurieff (Dorpat):* Dr. Czermak has been promoted to the Ordinary Professorship of Comparative Anatomy, Histology, and Embryology.—*Munich:* Dr. von Rothmund, Professor of Ophthalmology, is about to retire.—*Naples:* Dr. Gatta has been recognised as *privat-docent* of Medical Pathology, Dr. C. Colucci as *privat-docent* of Psychiatry, Dr. C. Ghillini as *privat-docent* of Orthopædics, and Dr. Pietravalle as *privat-docent* of Midwifery and Gynæcology. Dr. Pietro Castellino of Padua has been appointed Professor of Medical Pathology.—*Pavia:* Dr. A. Monti of Palermo has been appointed Professor of Pathological Anatomy; Dr. Carlo Ceni has been recognised as *privat-docent* of Neurology; Dr. Cosimo Binda as *privat-docent* of Forensic Medicine; and Dr. Cesari Paderi as *privat-docent* of Pharmacology and Materia Medica.—*Rio de Janeiro:* Dr. Marcos Cavalcanti has been appointed to the chair of Clinical Surgery in succession to Dr. O. Bulhões, deceased. Dr. Domingos de Góes e Vasconcellos has been appointed to the chair of Operative Medicine, vacant by the promotion of Dr. Cavalcanti.—*Rome:* Dr. Severino Boezio Piergili of Genoa has been recognised as *privat-docent* of Otology. Dr. Roberto Binaghi has been recognised as *privat-docent* of Surgical Pathology and Dr. Constantino Gorini as *privat-docent* of Experimental Hygiene.—*Rostock:* Dr. Kobert, formerly Professor in Iurieff (Dorpat), has been appointed to the chair of Pharmacology and Medical Chemistry in succession to Dr. O. Nasse, resigned.—*Strasburg:* Dr. Adolf

Magnus-Levy, formerly of Berlin, has been recognised as *privat-docent* of Medicine.—*Vienna:* Dr. W. Pauli has been recognised as *privat-docent* of Internal Medicine.—*Würzburg:* Dr. Fick, Professor of Physiology, is about to retire; Dr. Andreas Rosenberger, Extraordinary Professor of Forensic Medicine, has retired.

MEDICAL MAGISTRATE. — Mr. E. F. Eliot, F.R.C.S. Edin., L.R.C.P. Edin., F.F.P.S. Glasg., of Southampton, has been appointed a magistrate for the County Borough of Southampton.

THE MEDICAL OFFICER OF HEALTH OF WILTSHIRE.—Dr. MAXWELL ROSS, who was recently appointed medical officer of health of Wiltshire, has decided not to accept the appointment. In accordance with the terms of the resolution recently passed by the Wiltshire County Council the post has been offered to Mr. John T. Thomas, the medical officer of health of Leicestershire and Rutland combined districts.

COUNTY LABORATORY FOR GLAMORGANSHIRE.—At a recent meeting of the Sanitary Committee for Glamorganshire it was decided to ask University College, Cardiff, to utilise the laboratory for instruction in public health work, and to ascertain whether the Cardiff Corporation wished to have a share in the laboratory. It was also decided that bacteriological examinations of water should be made gratuitously, but only when the samples were submitted by registered medical practitioners or medical officers of health. Various fees will be charged for other examinations.

UNIVERSITY OF CAMBRIDGE. — The Medical Board propose a change in the regulations for the M.C. degree whereby Masters of Arts who have become legally qualified to practise surgery may apply for admission to take the degree on account of their original contributions to the advance of the art or science of surgery.—At the Congregation on March 2nd the following medical and surgical degrees were conferred:—M.B. and B.C: F. A. Godson, B.A., St. John's; A. W. Daniel, B.A., Emmanuel; R. J. Wilson, B.A., Emmanuel. M.B.: A. G. Butler, B.A., St. John's.

PRESENTATIONS TO MEDICAL MEN. — At the fortieth anniversary dinner on Feb. 21st of the Loyal Albion Lodge, Independent Order of Oddfellows, Manchester Unity (West London district), Mr. Frederick Henry Alderson, M.D. St. And., late surgeon, to the lodge, was presented upon his retirement with a testimonial consisting of a gold jewel emblematical of the Order and an address artistically wrought, being surmounted by the symbols of the Order, and an excellent photograph of himself in the centre, as tokens of grateful recognition of his 30 years' faithful service to the lodge.—The members of the St. John Ambulance class at Newlyn, Cornwall, have presented Mr. A. R. Field Evershed, L.R.C.P. Lond., M.R.C.S. Eng., of Penzance, with a copper pipe-rack suitably inscribed as a mark of their appreciation of his services as honorary instructor.—The members of the St. Agnes (Cornwall) branch of the St. John Ambulance Association gave a complimentary dinner recently to Mr. William Whitworth, M.R.C.S. Eng, L.S.A., in appreciation of his services as honorary instructor of the class.

Parliamentary Intelligence.

HOUSE OF COMMONS.

TUESDAY, FEB. 28TH.

Convalescent Homes for Soldiers.

MR. WYNDHAM, replying to a question addressed to him by Captain NORTON, said that in the opinion of the Army Medical Department there was not the same necessity for establishing convalescent stations for soldiers in Ireland as existed in England because the barracks were mostly situated among small populations and healthy surroundings. It was thought that the barracks at the Curragh, Holywood, and Queenstown would afford the necessary change for sick soldiers quartered at Dublin, Belfast, and Cork respectively.

Hours of Labour in Bakehouses.

Mr. WOODS introduced at this sitting a Bill to restrict the hours of labour in bakehouses to 48 per week.

THURSDAY, MARCH 2ND.

The Medical Service of the Volunteers.

Dr. FARQUHARSON asked the Under Secretary of State for War whether his attention had been called to the unsatisfactory condition of the medical service of the volunteers, more particularly to the anomalous position of the brigade bearer companies; and whether it was proposed to so organise the volunteer medical service as to assimilate it to the regular medical service of the army both as regards rank to the medical officers and the organisation of the Volunteer Medical Staff Corps and the brigade bearer companies and thereby render it effective as one of the departments of the volunteer force.—Mr. POWELL WILLIAMS, replying for Mr. WYNDHAM, said: An increased establishment has been given to all companies of the Volunteer Medical Staff Corps in order to complete the *personnel* for transport sections. An allowance will be given to enable them to practise transport duties. There is no intention to make an alteration in the rank of volunteer medical officers. The question of the reorganisation of the volunteer infantry brigade bearer companies is under consideration.

The Vaccination Question.

Mr. STRACHEY asked the President of the Local Government Board whether in view of the objections felt by many medical men at having their patients visited by the public vaccinator he would take into consideration the desirability of paying for vaccination by the family medical attendant.—Mr. CHAPLIN: I have no information to the effect that objections are felt by many medical men at having their patients visited by the public vaccinator. The duty of the public vaccinator to visit the home of an unvaccinated child does not arise until the child has attained the age of between four and five months unless the parent requests him to visit the home at an earlier date. There is therefore ample opportunity for the private practitioner to perform the operation if it is desired. The suggestion of the hon. Member was fully discussed during the passage of the Bill last year but was rejected by a majority of more than two to one, and I see no reason for altering that decision now.

Mr. CHANNING asked the President of the Local Government Board (1) with reference to a letter of the Local Government Board addressed last December to one of the vaccination officers of the Reading Board of Guardians in which it was stated that it would be contrary to the Board's practice to advise an officer of a board of guardians without reference to the guardians in a matter in which the guardians have jurisdiction, whether the matter submitted to the Local Government Board and touched upon in their reply was action by the vaccination officer in prosecuting defaulters under the Vaccination Acts; (2) whether vaccination officers were to understand from this letter that in interpreting the instructions to vaccination officers in the fourth schedule to the general Vaccination Order of Oct. 18th, 1898, in subsection (*d*) of section 6 of those instructions and elsewhere that it was their duty in the first place to take the orders of the guardians as to prosecuting or not prosecuting defaulters, or to abstain from prosecuting any defaulter if so ordered by the guardians; (3) whether, for several years before the Vaccination Act, 1898, the Local Government Board had left the boards of guardians free to decide whether prosecutions were to be undertaken or not and had repeatedly addressed to the boards copies of the Evesham letter urging the boards not to repeat prosecutions; and (4) whether he would forthwith send a circular to all vaccination officers that they were to act according to the instructions given in the Reading letter referred to in this question, and with the admitted practice which the Local Government Board had now allowed for several years past.—Mr. CHAPLIN: The hon. Member is under a misapprehension as to the correspondence to which he alludes. No such letter as that referred to in the question was written by the Local Government Board in December last. But in January, 1898, one of the vaccination officers of the Reading Union wrote to the Board asking for their advice in the matter of vaccination without specifying any particular point and the reply to the letter was to the effect stated in the question. As regards the second and fourth paragraphs it will be obvious that that letter had no bearing on the instructions to vaccination officers in the Vaccination Order of October, 1898, as it was written nearly nine months prior to the issue of the Order. As regards the third paragraph, under the regulations which were in force until the present year it was the duty of the guardians to cause proceedings to be taken against persons in default under the Vaccination Acts and for this purpose to give directions to the vaccination officer to institute and conduct the proceedings. It was the practice of the Board to point out to the guardians that it was their duty to give directions to the vaccination officer accordingly. It was decided in the case of Bramble *v.* Lowe that notwithstanding the regulations then in force the power of taking proceedings was vested in the vaccination officer under the Vaccination Acts without any directions from the guardians which were held to be superfluous and having regard to that decision and to the opinions given by the law officers of the Crown the Board have not in their new Order imposed any duty either on the guardians or vaccination officer as regards the institution and conduct of proceedings.

Examinations for Sanitary Inspectors.

Mr. CHAPLIN, replying to a question by Mr. HOBHOUSE, said that an association had been formed with the concurrence of the Local Government Board for holding examinations for persons desirous of obtaining certificates of competency for the office of sanitary inspector or inspector of nuisances. One of the objects of the association was to prescribe such course of study and technical training as might be calculated to ensure the fitness of persons desirous of qualifying for these offices. Several bodies, some of whom provide instruction for those who desire to become sanitary inspectors, would be represented on the examination board and representatives might be elected by such additional bodies as might from time to time be approved by the Local Government Board.

Tuberculosis.

Mr. CHANNING asked the First Lord of the Treasury whether, having regard to the repeated expressions of opinion by the Central and Associated Chambers of Agriculture, British Dairy Farmers' Association, and many other representative bodies to the effect that the questions relating to tuberculosis should be dealt with by the State in legislation for the whole country, Her Majesty's Government would introduce a Bill or Bills to meet this desire and secure uniform administration throughout the United Kingdom.—Mr. BALFOUR: The Government are not at present prepared to propose legislation on this subject.

Vivisection.

Mr. MACNEILL asked the Home Secretary whether he was aware that at an anti-vivisection meeting held at Bradford on Sept. 30th last

Dr. Kerr, speaking against the proposed withdrawal of licences granted to vivisectors, said the effect of the proposed step would be to increase the number of illegal experiments on the bodies of living animals and that such experiments were performed by many of his fellow practitioners at Bradford as it was necessary in the cause of science that such experiments should be made; whether he was aware that Dr. Kerr stated that Dr. Hines of Horton-road, Bradford, was the only vivisector in Bradford who carried out experiments in vivisection under the licence required by law, and that Dr. Hines, who was present, stated that he had performed hundreds of vivisections and should continue to do so; whether he was aware that the secretary of the Anti-Vivisection Society produced a list of licensed vivisectors on which the name of Dr. Hines did not appear; and whether, in view of these facts, he intended to take any and what steps for the enforcement of the law against the practice of unlicensed vivisection.—Mr. JESSE COLLINGS replied: The Secretary of State believes that at a somewhat excited meeting at Bradford on the date mentioned statements to the effect suggested were made. His attention was drawn to the matter at the time; he caused inquiry to be made, but he could not elicit any clear statement of what was actually alleged or any evidence of illegal vivisection being performed by Dr. Hime, not Hines. There are, therefore, no steps which he can take in the matter. I may add that it should be remembered that performing upon an animal an experiment calculated to give pain without a licence is an ordinary offence which any person may prosecute.—Mr. MACNEILL asked the Home Secretary whether his attention had been called to the interpretation put by the Government inspector of vivisection operations on the effect of the Act when he stated in his preface to the last returns that the certificates dispensing with the use of anæsthetics made it obligatory on the holder not to use them even should he desire to do so and when he himself believed that the experiment could be carried on under anæsthetics; and whether he would take this interpretation of the Act by the Government inspector under his consideration.—Mr. JESSE COLLINGS said: The Secretary of State thinks that the hon. Member has entirely misconceived the meaning of the statement to which he refers. Perhaps I may explain the apparent difficulty. The Act lays down that experiments such as those in question can only be performed without anæsthetics by a person holding a certain certificate. If the experiment is to be performed under or partly under anæsthetics the certificate required is quite different. The operator referred to possessed the former but not the latter certificate. Therefore, by using anæsthetics in his anxiety to avoid causing even the slightest pain to the animal he committed a slight technical irregularity which the inspector in accordance with the usual practice noticed in his annual report.

Physical Drill in the Army.

Mr. GEORGE WYNDHAM, Under Secretary for War, in making the annual statement with regard to the condition of the army, said on the subject of recruiting: I am sorry to say that of the recruits who presented themselves 35 per cent. were rejected on medical grounds. I think that that is rather an alarming figure. It may give us just cause for apprehension, not only in respect of the welfare of the army, but of the people themselves. A good many of these rejections were due to bad teeth and it is quite astonishing to learn the number who were rejected because they lacked general development. It occurs to me that in schools largely supported out of public funds it may not be impossible to get the children to take some elementary precautions to preserve their teeth, while it would also be a good thing to introduce into the schools that system of physical drill which Colonel Fox thinks has done so much for the recruits of the British Army. What it has done for the recruits may be gathered from the large percentage of recruits who were under standard but who attained the standard within a short time, and this fact was simply due to these exercises. Of the recruits re-measured in January who had joined since October 43 per cent. had reached the standard; of the "specials" who joined before June 30th 73 per cent. had reached the standard; and of "specials" who joined before 1895 90 per cent. had reached the standard; and some of those "specials" are now, on account of their abnormal muscular development, teaching gymnastics in our gymnasia.

FRIDAY, MARCH 3RD.

Notification of Infectious Disease.

On the motion of Sir FRANCIS POWELL a Bill was introduced to extend the Infectious Disease Notification Act, 1889, to districts in which it has not been adopted.

MONDAY, MARCH 6TH.

The Supply of Medicine to Irish Workhouses.

Mr. M'CARTAN asked the Chief Secretary to the Lord Lieutenant of Ireland (1) whether his attention had been called to a paragraph published in the Dublin *Freeman's Journal* of March 2nd, under the heading "Local Government Board Medicine Tender Forms"; (2) whether he was aware that the paragraph contained a copy of a resolution adopted unanimously by a board of guardians protesting most emphatically against the use of these forms as prejudicial to the purchase of certain medicines in Ireland; (3) whether these forms quoted from the price-lists of English firms and in certain cases contained the fancy trade-mark of English firms; and (4) whether in the encouragement of Irish industries these forms would be discontinued and boards of guardians and district councils allowed to purchase with Irish money these drugs, medicines, and instruments from Irish firms in Ireland.—Mr. GERALD BALFOUR replied that the answer to the first and second paragraphs of the question was in the affirmative. In the Local Government Board's prescribed list of medicines 11 out of the total of 416 articles given therein were quoted from the price-list of an English firm—Messrs. Burroughs and Wellcome—the strength of the preparation being stated in each case. These few articles had been added to the 405 preparations of the British Pharmacopœia included in the list as being articles of well-established reputation. There was no foundation for the complaint contained in the resolution that the inclusion of the few preparations referred to in the Board's authorised list would be prejudicial to Irish manufacturers and the Local Government Board had reason to believe that any list which excluded these 11 preparations of Messrs. Burroughs and Wellcome would be considered incomplete by the medical profession. These articles had received the approval of the Royal College of Physicians of Ireland. No objection had been received from the Irish drug trade respecting the Local Government Board's prescribed list of medicines.

Sale of Food and Drugs Bill.

At this sitting there was a debate on the motion for the second reading of the Sale of Food and Drugs Bill promoted by the Government. Mr. WALTER LONG, President of the Board of Agriculture, in making the motion explained in detail the provisions of the Bill and the objects of the Government in promoting it. He laid down two propositions. One was that they ought not to interfere by legislation with a legitimate industry which produced a wholesome and valuable article of food in great demand by the poorer classes of the country especially, and which they were entitled to have and to buy freely and openly, so long as it was sold in a straightforward manner and the other was that the law of the land as now found on the statute book must be obeyed and carried out and that if it was possible to secure it trade must be conducted on honest and honourable principles. Taking these two propositions as conditions antecedent to legislation he thought it would not be difficult for Parliament so to alter the law by tightening it up in one or two directions and by conferring some fresh powers on the Board of Agriculture as to meet all the requirements of the case. It was proposed by the Bill that samples should be taken at the port of debarkation of certain articles of dairy produce such as butter, cheese, and milk, and power was sought to proceed against the people who were responsible for the introduction of adulterated articles. With regard to the home trade, the Bill proposed that the duty of carrying out the Acts should rest with the local authority as at present but that the Board of Agriculture should have power to guide the local authority and urge it to carry out its powers. If the local authority were found to be in default, then it would be for the Board of Agriculture to do the work and charge the cost of the proceedings to the local authority. It was proposed that the limit of butter fat in margarine should be 10 per cent. which would not interfere with the manufacture of the best descriptions of margarine, but it was not proposed to stop the colouring of margarine which was coloured in the same way as butter, cheese, and milk to make it look attractive.—Mr. LOUGH, seconded by Sir CHARLES CAMERON, moved the rejection of the Bill and after several other members had spoken the debate was adjourned.

TUESDAY, MARCH 7TH.

The London Water Question.

Mr. HARRY SAMUEL asked the President of the Local Government Board whether, in the event that the Metropolis Water Bill did not pass into law in time to prevent a recurrence next summer of the water famine in East London, he would take temporary measures to prevent a scarcity of water in that district of the metropolis.—Mr. CHAPLIN replied: I do not quite understand what are the temporary measures to which the hon. Member refers or why he should assume that the passage of the Bill may be delayed. Nothing that I am aware of except the completion of certain connexions between the works of different companies can ensure the inhabitants of East London against recurrence of scarcity in the event of a similar drought to that of last summer and every effort will be made to promote the passing of the Bill.

WEDNESDAY, MARCH 8TH.

The Conscientious Objector.

An attempt was made by Mr. Boulnois at this sitting to get a second reading for his Bill to repeal the Conscientious Objector Section of the Vaccination Act of last year. The attempt, however, failed and the order was postponed until Wednesday, March 22nd.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ANDREWS, RICHARD JAMES, M.R.C.S., L.S.A., has been appointed Medical Officer of Health by the Urban District Council of Heavitree.

BARNES, GEORGE, M.R.C.S., L.R.C.P. Edin., L.S.A., has been re-appointed Medical Officer of Health for Chard.

BELDING, D. T., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of Health by the East Dereham Urban District Council.

BROWN, R., M.B., B.S. Durh., has been re-appointed Medical Officer of Health by the Blaydon Urban District Council.

BRYNE, P. K., M.D., B.S. Lond., L.R.C.P., M.R.C.S., has been appointed Medical Officer for the Christchurch Sanitary District, Parish of St. Marylebone, London.

CHESSON, H., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant Medical Superintendent to the Hospital for the Insane, Goodna, Queensland.

COCKS, C. C., M.D. St. And., M.R.C.S., has been appointed Government Medical Officer and Vaccinator for the District of Wentworth, New South Wales, vice H. Breton, resigned.

COOPER, A., F.R.C.S. Eng., has been appointed an Honorary Consulting Physician to St. Mary's Hospital, City-road, London.

CORBEN, CHARLES, L.R.C.P. Lond., M.R.C.S., has been appointed Public Vaccinator for the Caldicott District by the Chepstow Board of Guardians.

COUNSELLOR, W. P., M.D. Durh., L.R.C.P. Irel., M.R.C.S., has been re-appointed Medical Officer of Health by the Clitheroe Rural District Council.

DUNCAN, WM., M.B., C.M. Glasg., has been re-appointed Medical Officer of Health by the Clay Cross Urban District Council.

FLOWER, FRED. J., M.R.C.S., has been re-appointed Medical Officer of Health by the Warminster Urban District Council.

FORSTER, FRED. C., M.R.C.S., L.R.C.P., has been appointed Assistant House Surgeon to the Royal Berkshire Hospital, Reading.

FREYER, J. K., L.K.Q.C.P. Irel., L.R.C.S., has been appointed Government Medical Officer and Vaccinator for the District of Tenterfield, New South Wales, vice R. T. Morice, resigned.

HALFORD, A. C. F., M.B., Ch.B. Melb., has been appointed Resident Surgeon, Peak Downs Hospital, Clermont, Queensland.

HART, J. W., M.B., Ch.M. Edin., has been appointed Government Medical Officer and Vaccinator for the District of Binpara, New South Wales, vice G. C. Cary, resigned.

HOFFMAN, A. H., M.D. St. And., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health by the Knighton Rural District Council, vice R. F. Cox, resigned.

JONES, F. P., M.R.C.S., has been appointed Medical Officer of the No. 2 Sanitary District of the Bath Union, vice H. C. Hopkins, resigned.

JONES, R. E., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer to the Bangor Post Office.

KAY, J. GRAHAM, M.B., C.M. Edin., has been appointed Public Vaccinator for the Shirenewton District by the Chepstow Board of Guardians.

KENNY, A. S., M.R.C.S., has been appointed Medical Superintendent of the Government Sanatorium at Rotorna, New Zealand.

KERR, J. L., M.D. Aberd., C.M., has been appointed Medical Officer for the Biddenden Sanitary District of the Tenterden Union.

LAWRENCE, A. G., M.D. St. And., M.R.C.S., L.S.A., J.P., has been appointed Public Vaccinator for Chepstow by the Chepstow Board of Guardians.

MACKENZIE, E., M.D. Glasg., C.M., has been appointed Medical Officer for the Workhouse and the Cheadle Sanitary District of the Cheadle Union.

MACKINNON, CHARLES, M.A., M.B., C.M. Glasg., has been re-appointed Medical Officer of the South District of the Cirencester Union.

MILLER, VICTOR, M.B., C.M. Edin., has been appointed Honorary Ophthalmic Surgeon to the North Ormsby Hospital, Middlesbrough-on-Tees.

PARR-DUDLEY, ARTHUR DUDLEY, L.R.C.P. Lond., M.R.C.S., L.S.A., been appointed Medical Officer and Public Vaccinator for the Fifth District of the Chipping Sodbury Union.

PATTINSON, H. A., L.R.C.P. Irel., M.R.C.S., has been re-appointed Medical Officer of Health by the Seaton Urban District Council.

SPENCE, H., M.B., Ch.B. Melb., has been appointed a Public Vaccinator at Strathmerton, Victoria, Australia, vice B. B. Hoggan, resigned.

THURNAM, HERBERT LESLIE, M.A. Cantab., M.R.C.S., L.R.C.P., L.S.A., has been appointed Public Vaccinator for the whole District of Gravesend and Milton.

TREVES, FREDERICK, F.R.C.S., has been appointed an Emeritus Professor of Surgery to the London Hospital.

TURTON, W. H., M.B., C.M. Edin., has been re-appointed Medical Officer of Health by Heanor District Council.

WALDEN, F. J., M.B., C.M. Edin., has been appointed Officer of Health for Sorell, Tasmania.

WILLIAMS, F. E., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer for the Sixth Sanitary District of the St. Neot's Union.

WOODBROOFE, R. P., L.R.C.S. Irel., has been appointed Medical Officer by the Eccleshill Urban District Council.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

BLACKBURN AND EAST LANCASHIRE INFIRMARY, Blackburn.—Junior House Surgeon. Salary to commence at £50 per annum, with board, lodging, washing, &c.

BOROUGH HOSPITAL, Birkenhead.—Junior House Surgeon. Salary £60 per annum, with board and lodging, but no wine, spirits, or beer.

CHARING-CROSS HOSPITAL, London.—Assistant Physician.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Registrar for three years, subject to annual re-appointment. Honorarium 20 guineas per annum.

CHESTER GENERAL INFIRMARY.—Visiting Surgeon for two years. Salary £30 per annum, with residence and maintenance in the house.

CHORLTON-UPON-MEDLOCK DISPENSARY, Manchester.—Resident House Surgeon, unmarried. Salary £100 a year, with furnished rooms and attendance.

COUNTY ASYLUM, Whittingham, Lancashire.—Junior Assistant Medical Officer, unmarried. Salary commencing at £100 per annum, increasing to £250 according to promotion, with furnished apartments, board, attendance, and washing.

CUMBERLAND INFIRMARY, Carlisle.—Assistant House Surgeon for one year. Salary £40 per annum, with board, lodging, and washing.

CUMBERLAND AND WESTMORLAND ASYLUM, Garlands, Carlisle.—Junior Assistant Medical Officer, unmarried. Salary £100 a year, with board and residence.

DINORWIC QUARRY HOSPITAL.—Assistant to act as Assistant Surgeon. Salary £150 a year, with half midwifery fees attended by him. Applications to Mr. Roberts, Dinorwic Quarry Hospital, Llanberis, North Wales.

ESSEX COUNTY ASYLUM, Brentwood.—Junior Medical Assistant Officer, unmarried. Salary £120 per annum, with board, residence, and washing.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Assistant Physician. Also Resident House Physicians.

LIVERPOOL DISPENSARIES, 34, Moorfields, Liverpool.—Assistant Surgeon, unmarried. Salary £30 for the first year and £90 per annum afterwards, with board and residence.

LIVERPOOL NORTHERN HOSPITAL.—Resident House Surgeon's Assistant for six months. Board and lodging provided.

LONDON HOSPITAL, Whitechapel, E.—Surgical Registrar. Salary £100 per annum.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Junior Resident Medical Officer for six months. Salary £40 per annum, with board, attendance, and washing.

MONMOUTHSHIRE ASYLUM, Abergavenny.—Third Assistant Medical Officer. Salary £100, increasing by two yearly instalments to £150, with board, lodging, and washing.

NORTH ORMESBY HOSPITAL, Middlesbrough.—House Surgeon, non-resident, single. Salary £200.

ROYAL COLLEGE OF PHYSICIANS OF LONDON AND ROYAL COLLEGE OF SURGEONS OF ENGLAND CONJOINT LABORATORIES.—Director of the Conjoint Laboratories.

ROYAL INFIRMARY, Sheffield.—Junior Assistant House Surgeon. Salary £50 per annum, with board, lodging, and washing.

ROYAL HOSPITAL FOR SICK CHILDREN, Glasgow.—House Physician Salary £50, with board and washing.

ROYAL SOUTH HANTS INFIRMARY, Southampton.—Assistant House Surgeon for six months. Gratuity £10, conditionally.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William-street, West Strand, W.C.—Assistant Surgeon.

SEAMEN'S HOSPITAL SOCIETY ("Dreadnought"), Greenwich, S.E.—House Surgeon for Branch Hospital, Royal Victoria and Albert Docks, E. Salary £50 per annum, with board and residence.

STAFFORDSHIRE COUNTY ASYLUM, Stafford.—Junior Assistant Medical Officer, unmarried. Salary £100 a year, with furnished apartments, board, &c., and rising £25 per annum up to £150.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—Assistant House Surgeon. Salary £30 per annum, with board, lodging, and washing.

STOCKPORT INFIRMARY.—Assistant House and Visiting Surgeon. Salary £70 per annum, with board, washing, and residence.

ST. JOHN'S WOOD AND PORTLAND TOWN PROVIDENT DISPENSARY, N.W.—Third Medical Officer. Applications to the Secretary, 1, Henstridge Villas, St. John's Wood.

ST. MARY'S HOSPITAL, Paddington, W.—Surgeon for Diseases of the Ear for five years.

SWANSEA GENERAL AND EYE HOSPITAL.—House Physician for one year. Salary £50 per annum, with board, apartments, washing, and attendance.

TOTTENHAM HOSPITAL.—Resident Medical Officer for one year. Salary £60 per annum, with board, lodging, and washing.

UNIVERSITY OF EDINBURGH.—Professor of Physiology.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician and House Surgeon for six months.

WEST RIDING ASYLUM, Menston, near Leeds.—Fourth Assistant Medical Officer. Salary to commence at £100, rising £10 annually to £150, with board and apartments.

Births, Marriages, and Deaths.

BIRTHS.

ANDERSON.—On March 1st, at East-street, Faversham, the wife of Charles Macdonell Anderson, M.D., M.R.C.S., of a daughter.

PATCH.—On March 5th, at the Fernery, Chudleigh, South Devon, the wife of H. H. Lloyd Patch, M.R.C.S., L.R.C.P. Lond., L.S.A. Lond., of a son.

SHAW-MACKENZIE.—On March 4th, at 31, Grosvenor-street, W., the wife of John A. Shaw-Mackenzie, M.D. Lond., of a son and daughter.

MARRIAGES.

PAPILLON—PATON.—On Feb. 14th, at St. Margaret's Church, Westminster, by the Rev. W. L. Paige Cox, Vicar of Rockferry and Rural Dean of Birkenhead, assisted by the Rev. Lennox Tindall, Vicar of Ore, Hastings, brother-in-law of the bridegroom, Godfrey Keppel Papillon, of the Manor House, Kingscliffe, Northamptonshire, son of Philip O. Papillon, J.P. and L.D., of Crowhurst Park, Sussex, and Lexden Manor, Essex, to Jessie Winifred, only daughter of J. Wilson Paton, M.D., Rockferry, Cheshire.

PEDLEY—WOLSEY.—On March 1st, at Denmark-place Baptist Chapel, Samuel Edward Pedley, L.R.C.P. Lond., M.R.C.S., L.D.S., of Camberwell, to Ada Elizabeth, daughter of James Wolsey, of Shelford Lodge, Camberwell.

DEATHS.

BURNS.—On March 5th, at his father's residence, Berar, Vale-road, Ramsgate, Alfred Hugh Burns, L.R.C.P.I., L.S.A., aged 44 years.

GARTLEY.—On March 4th, suddenly, at Sackville-street, Piccadilly, W., John Alexander Gartley, L.D.S.R.C.S. Eng., aged 63 years.

RODGERS.—On Feb. 21st, at Ross, suddenly, Marshall Prime Rodgers, L.R.C.P., L.R.C.S., youngest son of the late J. M. P. Rodgers of Queniborough Lodge, Leicester. Deeply regretted. Interred at Ross, Feb. 25th.

ROSE.—On March 7th, at Dale Bank, Chesterfield, suddenly, John Rose, M.D. (Retired List R.N.), aged 76.

SMITH.—On March 1st, at Stuart Lodge, Polwarth-terrace, Edinburgh, John Stuart Smith, M.D., retired Surgeon-Major, Army Medical Department, aged 84 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Mar. 9th, 1899.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Mar. 3	30·20	W.	...	73	51	36	36	37	Overcast
,, 4	29·84	W.	...	76	50	36	37	38	Overcast
,, 5	30·15	N.E.	...	80	45	33	35	37	Hazy
,, 6	30·10	S.	...	79	46	32	33	35	Hazy
,, 7	29·67	SSW	...	77	51	32	33	34	Foggy
,, 8	29·59	W.	...	78	53	34	39	40	Cloudy
,, 9	29·05	S.W.	0·08	73	48	40	41	42	Cloudy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (13th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (9.30 A.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.), London Throat (2 P.M.).

TUESDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (15th).—St. Bartholomew's (1.30 P.M.), University College, (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.).

THURSDAY (16th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.).

FRIDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (18th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (13th).—MEDICAL SOCIETY OF LONDON.—8.30 P.M. Mr. J. Langton: Radical Operation for Inguinal Hernia—and afterwards.

TUESDAY (14th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Papers:—Dr. T. R. Bradshaw and Dr. W. B. Warrington: The Morbid Anatomy and Pathology of Dr. Bradshaw's Case of Myelopathic Albumosuria.—Mr. G. H. Makins: On Prevesical Hernia with the Relation of a Case in which Subacute Strangulation occurred.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN (17, Bloomsbury-square, W.C.).—8 P.M. Prof. J. R. Green: Adverse Conditions and their Remedies in the Life of Plants.

WEDNESDAY (15th).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Mr. L. Wright: The Projection Microscope.

NORTH-WEST LONDON CLINICAL SOCIETY (North-West London Hospital).—8.30 P.M. Annual General Meeting. Election of Officers. Demonstration of Cases.

ROYAL METEOROLOGICAL SOCIETY (Institution of Civil Engineers, Gt. George-street, Westminster, S.W.).—7.30 P.M. Ordinary Meeting. Papers:—Mr. J. Brodie: The Prolonged Deficiency of Rain in 1897 and 1898.—Rev. H. W. Yorke: The Climate of Jersey.

THURSDAY (16th).—HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road).—8.30 P.M. Dr. Mouillot: Modern Views on Gout in Relation to Treatment.

ROYAL SOCIETY.—Prof. Burdon-Sanderson: The Electrical Concomitants of Motion in Plants and Animals. (Croonian Lecture.)

FRIDAY (17th).—EPIDEMIOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Paper:—Dr. W. H. Crosse: Blackwater or Hæmoglobinuric Fever.

SOCIETY OF ANÆSTHETISTS (20, Hanover-square, W.).—Papers by Mr. H. B. Gardner and Mr. A. Granville. Casual Communications.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (13th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. C. Stewart: Alternation of Generation, and Recent Additions to the Museum.

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. G. L. Cheatle: The Treatment of Wounds and their Complications.

TUESDAY (14th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. G. R. Murray: The Pathology of the Thyroid Gland. (Goulstonian Lecture.)

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street, W.).—4 P.M. Mr. H. W. Dodd: Cases of Visual Disorder in relation to Diseases of the Nervous System.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Dr. Taylor: Syphilitic Diseases of the Nervous System.

ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. Prof. E. Ray Lankester: The Morphology of the Mollusca.

WEDNESDAY (15th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. C. Stewart: Alternation of Generation, and Recent Additions to the Museum.

EVELINA HOSPITAL (Southwark-bridge-road, S.E.).—4.30 P.M. Mr. S. Stephenson: Clinical Demonstration on Ophthalmic Cases from the Wards. (Post-Graduate Course).

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Biss: Chronic Pneumonia.

THURSDAY (16th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. S. Gee: The Causes and Forms of Bronchitis. (Lumleian Lecture.)

CHARING-CROSS HOSPITAL.—4 P.M. Dr. W. Hunter: Pathological Demonstration. (Post-Graduate Class.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Still: Demonstration of Selected Cases.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—4.30 P.M. Dr. M. Dockrell: Cases of Purpura and other Hæmorrhagic Affections.

LONDON TEMPERANCE HOSPITAL.—2 P.M. Dr. S. Fenwick: Clinical and Pathological Demonstration to Senior Students.

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. G. L. Cheatle: The Treatment of Wounds and their Complications.

FRIDAY (17th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. C. Stewart: Alternation of Generation, and Recent Additions to the Museum.

ROYAL INSTITUTION OF GREAT BRITAIN.—9 P.M. Prof. F. Gotch: The Electric Fish of the Nile.

SATURDAY (18th).—ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. Right Hon. Lord Rayleigh: The Mechanical Properties of Bodies.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1898, which was completed with the issue of Dec. 31st, and the Title-page to the Volume, were given in THE LANCET of Jan. 7th.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1898 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 6*d.*

To be obtained on application to the Manager, accompanied by remittance.

"THE JUST POSITION OF BACTERIOLOGY."

UNDER this heading a letter has appeared in some London and many provincial papers, which letter is signed Maurice L. Johnson and contains a complete misrepresentation of THE LANCET. As a rule we do not pay any attention to these misrepresentations, but when we have reason to believe that no error is being made but that our words have been twisted with the wilful intent to prejudice the medical profession in the eyes of the public we do not always remain silent. Mr. Maurice L. Johnson, in his communication to the lay press, quotes from an article written by the late Dr. C. Egerton Fitz-Gerald of Folkestone which was published in our issue of Feb. 4th and which contains some passages reflecting upon the undue importance—in the writer's opinion—that is now attached to bacteriology. In the course of this article Dr. Fitz-Gerald had occasion to quote from Professor Virchow's address delivered under circumstances that will be fresh in the minds of many of our readers at the opening of the last winter session of the Charing-cross Medical School. Professor Virchow in this address said that every contagious disease must not yet be attributed to a micro-organism, and Dr. Fitz-Gerald, the purport of whose little article was to enlarge upon this text, alludes to Professor Virchow in the following terms: "It will be admitted that men of his eminence, age, and scientific attainments are far better able to calmly review and dispassionately judge of the value of new discoveries and researches than the pure scientist who, with some self-complacency, may choose to dub such views 'old-fashioned.'"

Mr. Maurice L. Johnson's letter quotes certain passages in Dr. Fitz-Gerald's article in which the position of bacteriology is slightingly referred to and asks the public to take a similar view upon the authority of THE LANCET. This is accomplished by attributing to the Editors of THE LANCET Dr. Fitz-Gerald's eulogy of Professor Virchow and making the subject of that eulogy Dr. Fitz-Gerald himself. We have the highest respect for the memory of our frequent correspondent the late Dr. C. Egerton Fitz-Gerald and have put that respect on record in our obituary notice, but we made no editorial comment whatever either upon his article or upon his scientific attainments. We have pointed out this fact to Mr. Johnson who writes regretting a "compositor's error." The explanation is unconvincing to us, particularly as the letter appears in the same mendacious form in so many different papers; but whoever made the mistake it is one that we feel should be pointed out in detail and at once or it will become the source of endless misrepresentation. Every faddist who wants to throw a brick at the medical profession, "the pure scientist," or ourselves, will certainly quote our supposed compliance with a belief that the pretensions of bacteriology have become exorbitant as well as our remarkable tribute of praise to Dr. Fitz-Gerald for having exposed those pretensions. We have experience in the methods of certain papers the proprietors of which have made abuse of the medical profession a part of their general policy.

THE THERAPEUTICS OF COMFREY.

To the Editors of THE LANCET.

SIRS,—Can any of your readers supply information as to the use of comfrey (root or leaves?) applied externally in the form of a poultice to tumours such as sarcomas which cannot be removed? How it is prepared? and has any benefit, even temporary, been derived? Also information as to the internal administration of chelidonium in similar cases.

I am, Sirs, yours faithfully,

March 6th, 1899. W. S.

ALCOHOL AS A FRIGORIFIC.

THE story goes that in the winter of 1786 Prince Potemkin, the magnificent Prime Minister to the great Empress Catherine of Russia, gave a grand banquet in his spacious palace at St. Petersburg in order to do honour to a saint who in his lifetime had been renowned for his asceticism. The Prince's dinners were celebrated alike for their sumptuousness and the multitude of guests invited, but on the present occasion all the previous efforts of the ambitious Amphitryon were placed in the shade. The tables were spread with the utmost profusion and it is on record that no fewer than 22,000 persons assembled to do justice to the fare. As may be imagined in such a hard-drinking age strong liquors were by no means lacking. Brandy, or more probably vodka, literally overflowed; the symposium gradually deepened into a furious orgie, and before long the entire company became more or less intoxicated. The weather that winter happened to be severer than usual. There was not very much snow, but a black frost had solidified every atom of moisture in the soil whilst to add to the general inclemency an icy north-east wind which cut like a knife was blowing furiously. When the drunken revellers emerged at length into the night air they were almost immediately overcome by the intense cold. All or nearly all were enveloped in furs, sheepskins, or other non-conducting wrappings which under ordinary circumstances would have sufficed to protect them, but owing to the fatal influence of the alcohol which they had imbibed the demon of Frost was able to penetrate their defences and seize upon their "vitals." Stupefied and incapable of directing their unsteady footsteps they wandered vaguely to and fro in a vain endeavour to reach the shelter of their homes; but very soon one after another they stumbled and fell to the ground and of those who thus embraced their mother Earth not one in 20 ever rose again. The number of those who perished is put down at 16,000, but although this may be an exaggeration there is good reason to believe that more than half of the carousers lost their lives on this memorable occasion. Now, whether the sad fate of Prince Potemkin's guests be authentic or not there is a moral in the tale which all who are wont occasionally to indulge in more spirituous liquors than they are accustomed to would do well to bear in mind. Consumed in moderation alcohol does little or no harm to healthy persons, while in many forms of illness it is undoubtedly a very valuable medicament, still it cannot be denied that the limits of physiological moderation are often exceeded by people who regard themselves as strictly temperate and are so esteemed. When alcohol has been ingested in a larger dose than the system can dispose of promptly the surplus becomes a source of danger to the ingestor. Instead of acting as a stimulant and heat-producer it tends (whether by inhibition and paralysis or not it is unnecessary now to inquire) to bring about the congestion of internal organs at the expense of the periphery which is thus rendered comparatively bloodless and consequently colder than in the normal state. In this condition, with his blood irregularly distributed, the imbiber of surplus alcohol is peculiarly susceptible to the assaults of cold. It is true that after a good dinner in a well-warmed room he may not feel in the least indisposed. On the contrary, when under such circumstances the bottle has been circulating freely his feelings in all probability will be distinctly pleasurable; but no sooner is he exposed to a low temperature than at once the sensation of well-being begins to vanish, the rapidity of its disappearance being in direct ratio to the quantity of alcohol which he has failed to assimilate. Then it is that what are known as "chills" are so liable to attack the badly-protected organism. To guard against these subtle foes the greatest care is needed on the part of all who after spending the time at a festival in heated rooms are compelled to face the night air while returning to their domiciles. Too many wraps can scarcely be worn, and if in spite of them a chilly feeling should make itself felt while *in transitu* a warm drink on arrival at home will be found invaluable. The ingredients of this "night-cap" are not of much importance. Tea and coffee are suitable for such as can withstand the peculiar effects of these beverages, or else cocoa, chocolate, soup, &c., may be taken. Whatever the potion may be the essential point is that it should be piping hot.

TESTIMONIALS TO QUACK REMEDIES.

THE following extract from an advertisement shows very well what a chemical analytical record should *not* say:—

POST'S C. B. Q.

THE MOST EFFECTIVE CURE YET DISCOVERED FOR GOUT AND RHEUMATISM.

Extract from Certificate of Analysis.

* * * * *

"I consider it to be perfectly harmless in use, effective in action, and an admirable specific for the cure of rheumatic gout, sciatica, lumbago, neuralgia, &c. "GRANVILLE H. SHARPE, F.C.S.,
"Analyst; late Principal of the Liverpool College of Chemistry; Member of the Society of Chemical Industry, &c., &c."

It would not be expedient, perhaps, to give in THE LANCET any additional notice of the above quack remedy (which occupied two whole columns in the *Times* of March 6th) but the inquiry might reasonably be made how a late Principal of the Liverpool College of Chemistry and professional analyst (according to his own showing) can have acquired the experience which can entitle him to use the language he does in the latter part of his certificate. Even as regards the preparation being "harmless" he can only define as to what he tried to find and did not find there. Its positive virtues he can know nothing about. But if he will express a deliberate opinion upon what he knows nothing about, of what value is his statement as to what he may be presumed to know?

"GLYCALYMPH."

To the Editors of THE LANCET.

SIRS,—I think it would be very desirable to find a shorter and more easily pronounced name for glycerinated calf lymph, and I would propose "glycalymph," which is shorter by 11 letters and much easier to say, the *y*, of course, retaining its sound in glycerine. The descriptive words might be used in full for a few years in the notices to vaccinate and in a few other cases, but in by far the greater number the word "glycalymph" would be preferable and would satisfy all requirements.—I am, Sirs, yours faithfully,

J. P. H. BOILEAU, M.A., M.D. Dub.,
Late Brigade-Surgeon-Lieutenant-Colonel, Army Medical Staff.
Trowbridge, Wilts, March 6th, 1899.

THE TEETH OF THE ANNAMITES.

IN the *Revue Scientifique* of Feb. 18th M. Paul D'Enjoy gives some account of the method of blackening the teeth practised by the natives of Annam. All travellers, he says, on arriving in that country for the first time are astonished to find that the teeth of the natives are of a uniform lustrous black colour, like black enamel. This unusual condition is not the result of chewing betel, although delusive statements to that effect are made by the natives for the purpose of misleading foreigners. The Annamites abhor white teeth and have been known to say that a European with a bushy moustache

and white teeth eating a piece of meat resembles a hungry cat. The process of blackening the teeth is elaborate and tedious. After being well washed they are rubbed first with powdered coral and then with rice vinegar. In the next place, the operator, using special small brushes, paints their entire surface with a mixture of honey, animal black, and powdered calambac (*bois d'aigle*) ground together. Several successive applications of this kind are made every day and afterwards the person operated on has to keep his mouth open until the material dries. This substance becomes a kind of varnish which forms a protective covering but does not penetrate to the interior layers of the tooth. The natives assert that their remarkable freedom from toothache is due to this practice.

CLUB PRACTICE IN AUSTRALIA.

To the Editors of THE LANCET.

SIRS,—I enclose you a copy of a letter which I received on Feb. 20th. It may be of interest to your readers as giving further evidence of the deplorable state of affairs with regard to club practice in Australia. You can make any use you like of it.

I am, Sirs, yours faithfully,

Merton-park, S.W., Feb. 22nd, 1899. F. DEAS.

[INCLOSURE.]

Victoria, Australia, Jan. 10th, 1899.

SIR,—I have read with interest Dr. Wunderlich's and your letter on the National Deposit Friendly Society and it seems to me that you have both made out a good case for the society and I would like to become more acquainted with its working, &c., in order that I may be able to use this knowledge for a proposed conference between the friendly societies and ourselves. Personally, I have had considerable difficulty here in inducing the lodge I hold to agree to a wage limit. That such was necessary you may judge when I tell you I have had on my list a member worth £48,000, and at present I have several worth from £8000 to £500 a year, exclusive of the bank manager, &c. By agreeing to take these (who were already on my predecessor's list) the lodge has given me power verbally to reject any other members, although, as they were careful to point out, their constitution (M.U.I.O.F.) does not permit them to reject any applicant on the score of wealth, hence their inability to give me a written agreement to do so. I get 30s. for attendance and medicine per member (which includes wife and family up to 16 years) per annum. I get no pay for fractures or minor operations except uterine. I am infinitely better paid than many men who get only 12s. 6d. per member per annum in the larger towns here. It is the abuse of the lodge system by the wealthy here (Australasia) which renders medical practice so hard and unremunerative. We are endeavouring to alter matters and have held an inter-colonial conference of medicos to consider the situation at which a wage limit of £200 a year was fixed upon. Our next move is to have a conference between the friendly societies and ourselves in about three months time. Meanwhile we are endeavouring to form ourselves into a united body and to collect all information on friendly society matters, and it is for this reason I write to you, as the National Deposit Friendly Society seems to have conceded much that we are here seeking for.

Thanking you in anticipation and hoping I am not trespassing unduly on your time, I remain, yours sincerely,

(Signed) ———.

JESSE FOOT, SURGEON.

To the Editors of THE LANCET.

SIRS,—Can you inform me if Jesse Foot, Surgeon, was connected with the Lock Hospital, London? I have a copy of his treatise on the Lues Venerea—lectures delivered according to the title-page in 1790 and 1791 in Dean-street, Soho, and published in 1792. I bought it a few days ago at a second-hand bookshop in Colchester.

I am, Sirs, yours faithfully,

WM. H. HEWLETT, M.D. Aberd.

Wivenhoe, Essex, March 8th, 1899.

*** Jesse Foot was a well-known authority on his subject but does not appear to have been on the staff of the Lock Hospital (see the "National Dictionary of Biography").—ED. L.

"DOES ASPIRATION OF AIR THROUGH CHLOROFORM RENDER IT INERT AS AN ANÆSTHETIC:"

To the Editors of THE LANCET.

SIRS,—Having seen a communication with the above heading in THE LANCET of Feb. 11th, in which Mr. A. Alison Bradburne asks if anyone has had a similar experience to his own with the chloroform that has been used in Krohne's modification of Junker's inhaler, I beg to say that my own experience to a certain extent agrees with his and that along with other members of the staff of the Keighley Hospital who have also failed to induce satisfactory anæsthesia with chloroform that had been previously used in the apparatus I now use a fresh supply of chloroform for each administration. Having only tried this apparatus for a few months I do not feel able to speak very positively of its merits but I certainly think that by its use the chloroform is more quickly taken than by the open method and one learns to feel more secure against mishap in the knowledge that at no time is the patient getting more than a safe percentage of chloroform vapour.

I am, Sirs, yours faithfully,

Keighley, Feb. 27th, 1899. JOHN B. BERRY.

"THE NEW LONDON DISPENSATORY."

To the Editors of THE LANCET.

SIRS,—I have picked up an old book entitled, "The New London Dispensatory" by one Salmon, published "from the Red Balls in Salisbury-court, Fleet-street, London, March, 167?." It is a bulky tome and apparently complete. Is the work of any value? Perhaps some of your readers may know. I am, Sirs, yours faithfully,

Frome, March 6th, 1899. C. R. WOOD, M.B., M.D. Durh.

"WHAT IS ADVERTISEMENT?"

To the Editors of THE LANCET.

SIRS,—Many thanks for your kindly receipt of my letter *in re* the supposed interview with me reported in the *Echo*. I need not trouble you further but for the fact that the person mentioned therein as having called on me for "literary purposes" turns out *not* to have been the author of the said "interview" at all. I have just received (naturally to my great surprise) from an intimate personal friend who mainly gained his information from the study of my books the acknowledgment that he wrote all the articles and cast the third into the form of an interview with me, purely on his own initiative, for the purpose of making a more popular article in treating a difficult subject. This he did in utter ignorance that medical etiquette would be thereby infringed. He is exceedingly sorry, and, needless to add, so am I; but I feel that I owe to the *Echo* newspaper the publication of this explanation. I am, Sirs, yours faithfully,

HERBERT SNOW.

Gloucester-place, Portman-square, W., March 8th, 1899.

*** We withdraw the unfavourable comments upon the *Echo* which Dr. Snow's previous communication elicited from us.—ED. L.

WANTED A HOME.

To the Editors of THE LANCET.

SIRS,—Can you or any of your readers inform me of any institution where a child with infantile paralysis affecting both extremities would be received? He is intelligent and about four years of age. A small payment could be made.—I am, Sirs, yours faithfully,

J. LIONEL STRETTON.

27, Church-street, Kidderminster, Feb. 26th, 1899.

S. S. M. S.—1. Such an advertisement if brought before the notice of the General Medical Council at the time of its appearance might elicit a rebuke from that body. We doubt if the practitioner responsible for it would be struck off the Register. 2. We do not think it at all likely that the Council would punish a practitioner now for an offence committed ten years ago, unless, perhaps, it could be shown that during the whole decade his conduct had been similarly unprofessional. 3. The size of a practitioner's door-plate or notice-board stating his professional hours, &c., has never been under the notice of the Council, and we do not think that in this case it would consider the boards as evidence of infamous conduct. 4 and 5. The advertisement published ten years ago was a proper reason for medical men refusing to meet the practitioner in question, but if he has since repented of his wrong-doing some of his professional brethren may hold it right to pardon him. 6 and 7. There is no method of reparation open save to live a professional life that is conspicuously free from advertising, but if this has been done for ten years we should be unwilling to counsel great rigour.

S. H. S.—Gerrard's Ureometer is one of the best and most convenient (Baird and Tatlock, 14, Cross-street, Hatton-garden). For sugar Johnson's Picro-saccharometer is accurate and reliable (C. E. Müller and Co., 148, High Holborn, W.C.).

P. L.—The point has not been put to us before. The answer will be found against the same initials next week.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received: *Westmorland Gazette, Cornish Times, Peterborough Standard, Norfolk Standard, Rangoon Times, Times of India, Pioneer Mail, The Morning, Hampshire Observer, Scotsman, Builder, Citizen, Architect, Western Morning News, Cheshire Observer, Newcastle Daily Leader, Bradford Observer, Daily Chronicle, Morning Leader, Yorkshire Post, Sheffield Daily Telegraph, Financial News, Scarborough Post, Manchester Guardian, Liverpool Daily Post, Public Health, Bristol Mercury, Brighton Gazette, Leeds Mercury, Sanitary Record, Middlesex Hospital Journal, Watford Leader, Nottingham Daily Guardian, Siam Free Press, North-Eastern Daily Gazette, Local Government Chronicle, Mining Journal, Tunbridge Wells Advertiser, Hertfordshire Mercury, Hinckley Free Press, Hinckley Times and Bosworth Herald, Reading Mercury, City Press, Birmingham Argus, Kent and Sussex Courier, Cork Constitution, Citizen (Gloucester), Windsor Chronicle, East Anglian Daily Times, Surrey Advertiser, Local Government Journal, St. Helen's Advertiser, South Africa, Berkshire Chronicle, Clitheroe Advertiser, Bicester Advertiser, Weekly Free Press and Aberdeen Herald, West London Observer, &c.*

Communications, Letters, &c., have been received from—

A.—Dr. Aldersmith, Lond.; Prof. Clifford Allbutt, Cambridge; Mr. W. H. Allingham, Lond.; *Archives Générales de Médecine*, Paris, Editor of; Messrs. Armour and Co., Lond.; Dr. J. C. Armstrong, Treorchy.

B.—Dr. F. L. Benham, Lond.; Dr. J. Brunton, Lond.; Professor Burdon-Sanderson, Oxford; Mr. R. A. Bayliss, Bath; Berkefeld Filter Company, Lond.; Blackburn Infirmary, Secretary of; Bayer Co., Lond.; Breakfast Health Beverage Co., Redditch; Mr. R. Badcock, Lond.; Messrs. Burroughs, Wellcome, and Co., Lond.; T. B. Browne, Ltd., Lond.; Mr. C. Birchall, Liverpool; Birkenhead Borough Hospital, Secretary of.

C.—Mr. W. Coates, Manchester; Dr. Raymond Crawfurd, Lond.; Mr. R. F. Conolly, Lond.; Dr. Wallace Craskery, Eckington; Messrs. J. and A. Churchill, Lond.; Mr. H. F. Cheese, Lond.; Messrs. Crossley, Moir, and Co., Lond.; Messrs. Carnrick and Co., Lond.; Dr. Walter Colquhoun, Glasgow; Mr. A. Chopping, Colchester; Mr. J. Black Cameron, Lond.; Mr. F. W. Clarke, Chorlton-cum-Hardy.

D.—Mr. F. Davidson, Lond.; Mr. N. Davies, Cowbridge; Dr. Clement Dukes, Rugby; Mr. Davis, Lond.; Messrs. W. Dawson and Sons, Lond.

E.—Colonel Engledue, Byfleet.

F.—Messrs. Flynn and Co., Cork; Fromms Extract Co., Lond.; Messrs. H. Francis and Co., Lond.

G.—Mr. Charles Grant, Lond.; General Post Office, Lond., Secretary of; G. T. B.; G. P. E.; Dr. Gee, Lond.

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J.—Mr. Raymond Johnson, Lond; Mr. Robert Jones, Liverpool; Mr. T. R. Jessop, Leeds.

K.—Dr. Robert Kirk, Glasgow; Mr. B. Kuhn, Lond.; Messrs. R. A. Knight and Co., Lond.; K. H. A.; Mr. W. W. Keen, Philadelphia.

L.—Mr. E. W. Lamb, Crewkerne; Mr. H. K. Lewis, Lond.; Mr. C. J. Lownds, Lond.; Mr. C. H. Lee, Spilsby; Mr. Lowndes, Liverpool; Dr. Lee, St. Leonard's-on-Sea; Mr. P. G. Laver, Colchester.

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N.—Mr. N. H. Nixon, Lond.

O.—*Ormskirk Advertiser*, Editor of; *Orcadian*, Editor of.

P.—Mr. J. Pennington, Lond.; Mr. A. Phillips, Manchester; Messrs. Potter and Clarke, Lond.; Protene. Co., Lond.; Messrs. Parke, Davis, and Co., Lond.; Proprietress, Lond.; Dr. Porter, Stockport; Mr. Y. J. Pentland, Edinburgh; Mr. J. B. Pike, Loughborough.

R.—Dr. J. Ryan, Finea; Royal College of Physicians of Ireland, Secretary of; Royal South Hants Infirmary, Southampton, Secretary of; Dr. H. D. Rolleston, Lond.; Messrs. J. Richardson and Co., Leicester.

S.—Mr. C. J. Symonds, Lond.; Mr. G. Stegmann, Lond.; Sanitary Institute, Lond., Secretary of; Spectacle-makers, Company of, Lond.; Mr. C. C. Skardon, Evershot; Stafford County Asylum, Medical Superintendent of; Messrs. Sparkes, Treherne, and Son, Lond.; Smith's Advertising Agency, Lond.; Sanitas Co., Lond.; Mr. Noble Smith, Lond.; Mr. Lionel Stretton, Kidderminster; Mr. J. Sellers, Lond.; St. John's Wood Provident Dispensary, Secretary of; Dr. Spence, Lichfield; Dr. S.; Messrs. W. H. Smith and Son, Manchester; Dr. Smeeth, Stockport; Dr. H. Scurfield, Sunderland; St. George's Hospital, Dean of; Messrs. Street and Co., Lond.; Messrs. A. F. Sharp and Co., Glasgow.

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U.—University of Durham, College of Medicine, Newcastle-on-Tyne; Universal Food and Cookery Association; Union Assurance Society, Lond., Secretary of.

V.—Mr. J. W. Vickers, Lond.; Mrs. L. Veale, Harrogate.

W.—Mr. G. Wardle, Richmond; Miss Woodward, Folkestone; Mr. G. A. Wright, Manchester; Dr. A. L. Whitehead, Leeds; Dr. S. West, Lond.; Dr. Washbourn, Lond.; W. H. P.; Mr. M. Walsh, New Ross; West Riding Asylum, Clerk of.

X.—X-Ray.

Z.—Dr. Zavitzianor, Pera.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. F. C. Angear, Chatham; Mr. W. F. Abbott, Addlestone; Mr. F. C. Allen, Ashton under-Lyne; Apollinaris Co., Lond.; A. W.; A. S.; A. L.; Messrs. Allen and Hanburys, Lond.; Dr. R. Allison, Liverpool.

B.—Mr. R. B. Brown, Settle; Mr. C. E. S. Brettingham, Ilchester; Messrs. Burgoyne, Burbidges, and Co., Lond.; Birmingham Hospital for Skin Diseases, Secretary of; B. J.; Bury Dispensary Hospital, Secretary of; Mr. C. L. Bedford, Birmingham; Mrs. B.; Messrs. Blackwell and Gross, Lond.; Mr. H. A. Bull, Great Haywood.

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